



# Madison College Catalog

2021-2022

## Madison Area Technical College

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# Accounting

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101139	QuickBooks-Beginning	1	0.5-1
BUSADM 10102134	Introduction to Business	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
MATH 10804144	Math of Finance	3	3-0
<b>Second Semester</b>			
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101123	Tax 1	4	4-0
ACCTG 10101141	QuickBooks-Intermediate	1	0.5-1
FINANCE 10114130	Personal Finance	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
<b>Third Semester</b>			
ACCTG 10101121	Accounting 3-Intermediate	4	4-0
ACCTG 10101125	Cost Management	4	4-0
ACCTG 10101138	Accounting And Payroll Systems	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Fourth Semester</b>			
ACCTG 10101122	Accounting 4-Intermediate	4	4-0
ACCTG 10101137	Computerized Accounting Applications	2	1.5-1
ACCTG 10101142	Accounting Capstone	3	2-2
BUSADM 10102160	Business Law 1	3	3-0
ADMINPRF 10106190	Professional Development	1	0.5-1
ECON 10809195	Economics	3	3-0



## Accounting Assistant

A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
BUSADM 10102134	Introduction to Business	3	3-0
ACCTG 10101139	QuickBooks-Beginning	1	0.5-1
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
<b>Second Semester</b>			
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101123	Tax 1	4	4-0
ACCTG 10101141	QuickBooks-Intermediate	1	0.5-1
FINANCE 10114130	Personal Finance	3	3-0
ADMINPRF 10106190	Professional Development	1	0.5-1

## Addiction Studies

### A Less Than One Year Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
HUMSVC 10520117	Interviewing	3	3-0
HUMSVC 10520135	Issues in Alcohol and Other Drug Abuse	3	3-0
HUMSVC 10520106	Orientation to Human Services Populations	3	3-0
<b>Second Semester</b>			
HUMSVC 10520141	Introduction to Community Mental Health	3	3-0
HUMSVC 10520142	Psychopharmacology	3	3-0
HUMSVC 10520136	Counseling Alcoholics and Other Drug Abusers	3	3-0
HUMSVC 10520116	Group Work Skills	3	3-0
HUMSVC 10520157	Human Services Counseling Skills	3	3-0

# Administrative Professional

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106139	Keyboard Skillbuilding	1	0.27-1.5
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
<b>Second Semester</b>			
COMPSOFT 10103165	Outlook	1	0.27-1.5
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106108	Proofreading And Editing	3	2-2
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106121	Office Technology and Procedures	3	2-2
ADMINPRF 10106164	Customer Contact Skills	2	2-0
ADMINPRF 10106240	Business Information Management	3	1-4
<b>Third Semester</b>			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
ACCTG 10101106	Accounting Fundamentals	3	3-0
ADMINPRF 10106106	Business Writing and Research	3	2-2
ADMINPRF 10106172	Administrative Office Management	3	2-2
ADMINPRF 10106190	Professional Development	1	0.5-1
<b>Fourth Semester</b>			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
BUSADM 10102135	Project Management - Fundamentals	3	3-0
ADMINPRF 10106126	Software Capstone	3	1-4
ADMINPRF 10106192	Internship - Administrative Professional	1	0-0
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0

# Advanced EMT

## A Less Than One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

Courses		Hrs/Week	
		Credits/Units	LEC-LAB
EMS 30531360	Advanced Emergency Medical Technician	4	4-2

# Agricultural Equipment Technology

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
AGMECH 10070100	Introduction to Agricultural Equipment	1	0.5-1
AGMECH 10070105	Electricity 1	3	2-2
AGMECH 10070205	Electricity 2	3	1-4
AGMECH 10070115	Planting and Seeding	3	2-2
AGMECH 10070135	Basic Fuel Systems	2	1-2
AGMECH 10070191	Basic Engine Repair	3	1-4
DIESEL 10412110	Metalworking for Heavy-Duty Applications	2	0-4
<b>Second Semester</b>			
AGMECH 10070145	Basic Powertrain	3	0-6
AGMECH 10070193	Mobile Heating & Air Conditioning	2	1-2
AGMECH 10070215	Crop Harvesting	3	2-2
AGMECH 10070125	Hydraulics 1	3	1-4
AGMECH 10070225	Hydraulics 2	3	1-4
ENGLISH 10801195	Written Communication	3	3-0
<b>Third/Summer Session</b>			
AGMECH 10070187	Occupational Experience 1 - Agricultural Equipment Technology Program	2	0-0
<b>Fourth Semester</b>			
AGMECH 10070250	Precision Farming (GPS)	3	1.5-3
AGMECH 10070305	Electronics	3	1-4
AGMECH 10070325	Hydraulics 3	3	1-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
MATH 10804134	Mathematical Reasoning	3	2-2
<b>Fifth Semester</b>			
AGMECH 10070235	Advanced Fuel Systems/Emissions	2	1-2
AGMECH 10070245	Advanced Powertrain	3	0-6
AGMECH 10070291	Advanced Engines	3	1-4
ECON 10809195	Economics	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

# Agriculture Equipment Service Technician

A Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
AGMECH 10070100	Introduction to Agricultural Equipment	1	0.5-1
AGMECH 10070105	Electricity 1	3	2-2
AGMECH 10070135	Basic Fuel Systems	2	1-2
AGMECH 10070191	Engine Repair Theory	3	1-4
AGMECH 10070205	Electricity 2	3	1-4
DIESEL 10412110	Metalworking for Heavy-Duty Applications	2	0-4
<b>Second Semester</b>			
AGMECH 10070125	Hydraulics 1	3	1-4
AGMECH 10070145	Basic Powertrain	3	0-6
AGMECH 10070193	Mobile Heating & Air Conditioning	2	1-2
AGMECH 10070215	Crop Harvesting	3	2-2
AGMECH 10070225	Hydraulics 2	3	1-4
ENGLISH 10801195	Written Communication	3	3-0

# Air Conditioning, Heating, and Refrigeration Technology

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
INSAFE 10449100	Safety for Industry	1	0-2
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
HVAC 10601330	Refrigeration Fundamentals	2	0-4
HVAC 10601336	EPA 608 Training & Certification	1	0.5-1
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
<i>One of the following math courses (or higher-level courses that can be found on your degree progress report):</i>			
MATH 10804107	College Mathematics	3	2-2
MATH 10804113	College Technical Math 1A	3	3-0
<b>Second Semester</b>			
MTLFAB 10457100	Metal Repair Techniques	2	0-4
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
IND MECH 10462331	DCAC 3 Theory	1	0-2
HVAC 10601304	Industrial Fluid Distribution Systems	2	0-4
HVAC 10601332	Heating and Air Conditioning Advanced	3	1-4
HVAC 10601340	Forced Air Heating Systems	2	0-4
HVAC 10601342	Hydronic and Steam Systems	3	1-4
<b>Third Semester</b>			
HVAC 10601334	Commercial Refrigeration Systems	3	3-0
HVAC 10601361	Industry Competencies 1	1	0-2
HVAC 10601370	Building Automations 1	3	1-4
HVAC 10601410	HVAC/R Systems Design	3	0-6
ENGLISH 10801195	Written Communication	3	3-0
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
<b>Fourth Semester</b>			
IND MECH 10462309	Maintenance Management	2	0-4
HVAC 10601362	Industry Competencies 2	2	0-4
HVAC 10601372	Building Automations 2	3	1-4
ARCHT 10614123	Electrical and Mechanical Systems	4	4-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

# Animation

## An Associate in Applied Arts Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Prior to Start of Program (required)</b>			
ANIM 10207112	2D Fundamentals	2	0-4
ANIM 10207113	3D Fundamentals	2	0-4
<b>First Semester</b>			
ANIM 10207103	Basic Drawing for Concepting	2	0-4
ANIM 10207110	Animation 1	2	0-4
ANIM 10207111	Texturing 1	2	0-4
ANIM 10207114	Modeling 1	2	0-4
ANIM 10207139	Design & Color for Concepting	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
ANIM 10207117	Figure Drawing for Concepting	3	0-6
ANIM 10207120	Animation 2	2	0-4
ANIM 10207122	Texturing 2	2	0-4
ANIM 10207150	Animation Concepts 1	3	0-6
ANIM 10207224	Modeling 2	2	0-4
MATH 10804107	College Mathematics	3	2-2
<b>Third Semester</b>			
ANIM 10207130	Digital Set Design 1	2	0-4
ANIM 10207131	Animation 3	2	0-4
ANIM 10207134	Modeling 3	2	0-4
ANIM 10207140	Advanced Animation Studio 1	2	0-4
ANIM 10207151	Animation Concepts 2	2	0-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
	Elective Credit	3	
<b>Fourth Semester</b>			
ANIM 10207133	Digital Set Design 2	2	0-4
ANIM 10207141	Production Studio	3	0-6
ANIM 10207142	Animation Internship	2	0-0
ANIM 10207145	Portfolio for Animation	1	0-2
ANIM 10207144	Advanced Animation Studio 2	2	0-4
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Recommended Electives</b>			
ANIM 10207152	Advanced Digital Illustration	2	0-4
GRDSGN 10201117	Illustrative Figure Drawing	3	0-6



# Arboriculture/Urban Forestry Technician

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ENGLISH 10801195	Written Communication	3	3-0
URBN FOR 10001101	Introduction to Arboriculture	2	1-2
URBN FOR 10001102	Plant Health Care Applicator	2	2-0
URBN FOR 10001110	Tree Biology	2	1-2
URBN FOR 10001118	Landscape Plant Identification	2	1-2
URBN FOR 10001124	Fundamentals of Aerial Tree Work	3	1-4
<b>Second Semester</b>			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
URBN FOR 10001113	Ornamental Plant Health Care for Arboriculture	3	2-2
URBN FOR 10001133	Equipment and Chainsaw Safety and Operation	3	1-4
URBN FOR 10001138	Landscape Management 1	3	2-2
URBN FOR 10001173	Urban Tree Maintenance	2	1-2
<i>Select one of the following practicum courses:</i>			
URBN FOR 10001121	Tree Crew Practicum 1	2	0-4
URBN FOR 10001125	Aerial Tree Work Practicum 1	2	0-4
<b>Third Semester</b>			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
URBN FOR 10001105	Tree Identification, Dendrology & Silvics	3	2-2
URBN FOR 10001149	Ecological Basis for Natural Resources Management	3	3-0
URBN FOR 10001199	Forest, Fisheries, and Wildlife	3	2-2
<i>Select one of the following practicum courses:</i>			
URBN FOR 10001122	Tree Crew Practicum 2	2	0-4
URBN FOR 10001126	Aerial Tree Work Practicum 2	2	0-4
<b>Fourth Semester</b>			
MATH 10804134	Mathematical Reasoning	3	2-2
SOC 10809197	Contemporary American Society	3	3-0
URBN FOR 10001103	Arboriculture	2	1-2
URBN FOR 10001139	Landscape Management 2	3	2-2
URBN FOR 10001198	Soil and Water Resources	3	2-2
<i>Select one of the following practicum courses:</i>			
URBN FOR 10001123	Tree Crew Practicum 3-Capstone	2	0-4
URBN FOR 10001127	Aerial Tree Work Practicum 3-Capstone	2	0-4

# Architectural Technology

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ARCHT 10614100	Introduction to Architecture	3	3-0
ARCHT 10614121	Construction Materials - Architectural Technology	3	3-0
ARCHT 10614128	Architectural Software 1	4	3-2
ARCHT 10614129	Architectural Studio 1	4	3-2
<i>Select one of the following courses: (English 1 is recommended for transfer students.)</i>			
ENGLISH 10801195	Written Communication	3	3-0
ENGLISH 20801201	English 1	3	3-0
<b>Second Semester</b>			
ARCHT 10614106	Architectural Building Codes	3	3-0
ARCHT 10614127	Architectural Software 2	4	3-2
ARCHT 10614130	Architectural Studio 2	4	3-2
<i>Select a math course at the College Mathematics level or higher. (College Algebra is recommended for transfer students.)</i>			
MATH 10804107	College Mathematics	3	2-2
<i>Select one of the following courses: (English 2 is recommended for transfer students.)</i>			
ENGLISH 10801197	Technical Reporting	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 20801202	English 2	3	3-0
<b>Third Semester</b>			
ARCHT 10614103	Architectural Software 3	3	2-2
ARCHT 10614109	Architectural Building Structures	3	2-2
ARCHT 10614123	Architectural Studio 3	4	4-0
ARCHT 10614154	Site Design	3	2-2
<i>Select one of the following courses: (Intro to Psychology is recommended for transfer students.)</i>			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
<b>Fourth Semester</b>			
ARCHT 10614101	Architectural Theory 1	3	1-2
ARCHT 10614104	Architectural Software 4	3	2-2
ARCHT 10614107	Architectural Building Detailing	3	3-0
ARCHT 10614120	Professional Practice	2	2-0
ARCHT 10614145	Architectural Studio 4	4	3-2
<i>Select one of the following courses:</i>			
SOC 10809172	Introduction to Diversity Studies	3	3-0
ECON 10809195	Economics	3	3-0
SOC 10809197	Contemporary American Society	3	3-0

## Artisanal Modern Meat Butchery

### A Less Than One Year Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
CUL ARTS 10316101	Principles Of Sanitation	1	1-0
CUL ARTS 10316160	Pasture to Plate	3	3-0
CUL ARTS 10316161	Protein Identification, Fabrication, and Utilization 1	3	1-4
CUL ARTS 10316162	Slaughtering	3	0-6
SMLBUS 10145117	Introduction to Entrepreneurship	3	3-0
<b>Second Semester</b>			
CUL ARTS 10316163	Protein Identification, Fabrication, and Utilization 2	3	1-4
CUL ARTS 10316168	Retail Butcher Sales	3	0-6
CUL ARTS 10316195	Hazard Analysis Critical Control Point (HACCP) for Business	2	2-0
SMLBUS 10145165	Entrepreneurship for the Small Farmer or Butcher	3	3-0

## Associate Degree Nursing (R.N.)

An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

			Credits/Units	Hrs/Week LEC-LAB
<b>Nursing Certification</b>				
<i>Proof of certification as a Nursing Assistant or completion of a Nursing Assistant course is required prior to petitioning. Refer to petition requirements for additional details.</i>				
NRSAD 30543300	Nursing Assistant		3	2.77-1.66
<b>General Education Courses</b>				
<i>The following general education courses are required to successfully graduate from the Nursing-Associate Degree program. Some of these courses are required to petition and others may be completed prior to the start of the program or by the end of the first year of the program. Prospective students should refer to petition requirements and current students should refer to their Degree Progress Report for additional details regarding which general education program requirements must be taken to petition.</i>				
ENGLISH 20801201	English 1		3	3-0
<b>Speech must be completed prior to the start of third semester</b>				
SPEECH 10801198	Speech		3	3-0
BIOLOGY 20806207	Anatomy and Physiology 1		4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2		4	3-2
BIOLOGY 20806273	Microbiology-University Medical		5	3-4
SOC 20809203	Intro Sociology		3	3-0
PSYCH 20809231	Intro Psychology		3	3-0
PSYCH 20809233	Developmental Psychology		3	3-0
<b>First Semester</b>				
NRSAD 10543101	Nursing Fundamentals		2	2-0
NRSAD 10543102	Nursing Skills		3	0-6
NRSAD 10543103	Nursing Pharmacology		2	2-0
NRSAD 10543104	Nsg: Intro Clinical Practice		2	0-0
<b>Second Semester</b>				
NRSAD 10543105	Nursing Health Alterations		3	3-0
NRSAD 10543106	Nursing Health Promotion		3	3-0
NRSAD 10543107	Nursing: Clinical Care Across Lifespan		2	0-0
NRSAD 10543108	Nursing: Introduction to Clinical Care Management		2	0-0
<b>Third Semester</b>				
NRSAD 10543109	Nursing: Complex Health Alterations 1		3	3-0
NRSAD 10543110	Nursing: Mental Health Community Concepts		2	2-0
NRSAD 10543111	Nursing: Intermediate Clinical Practice		3	0-0
NRSAD 10543112	Nursing Advanced Skills		1	0-2
<b>Fourth Semester</b>				
NRSAD 10543113	Nursing: Complex Health Alterations 2		3	3-0

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NRSAD 10543114	Nursing: Management and Professional Concepts	2	2-0
NRSAD 10543115	Nursing: Advanced Clinical Practice	3	0-0
NRSAD 10543116	Nursing Clinical Transition	2	0-0

# Associate Degree Nursing (R.N.)

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>General Education Courses</b>			
<i>The following general education and elective courses are required to successfully graduate from the Nursing-Associate Degree program. Some of these courses are required to petition and others may be completed prior to the start of the program or by the end of the first year of the program. Prospective students should refer to petition requirements and current students should refer to their Degree Progress Report for additional details regarding which general education program requirements must be taken to petition.</i>			
ENGLISH 20801201	English 1	3	3-0
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
<i>The following courses are recommended to be completed prior to enrolling in the nursing bridge courses:</i>			
SPEECH 10801198	Speech	3	3-0
<i>Choose from Microbiology or General Microbiology:</i>			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
SOC 20809203	Intro Sociology	3	3-0
	Elective	5	
<b>Paramedic Bridge Courses and Licensure Requirements</b>			
<b>Bridge Courses Fall Semester</b>			
NRSAD 10543127	Paramedic to AD Theory 1	3	3-0
NRSAD 10543128	Paramedic to AD Theory 2	3	3-0
<b>Bridge Courses Spring Semester</b>			
NRSAD 10543129	Paramedic to AD Skills	2	0-4
NRSAD 10543130	Paramedic to RN Clinical	2	0-0
<b>Associate Degree Nursing 2nd Year Requirements</b>			
<b>Third Semester</b>			
NRSAD 10543109	Nursing: Complex Health Alterations 1	3	3-0
NRSAD 10543110	Nursing: Mental Health Community Concepts	2	2-0
NRSAD 10543111	Nursing: Intermediate Clinical Practice	3	0-0
NRSAD 10543112	Nursing Advanced Skills	1	0-2
<b>Fourth Semester</b>			
NRSAD 10543113	Nursing: Complex Health Alterations 2	3	3-0
NRSAD 10543114	Nursing: Management and Professional Concepts	2	2-0
NRSAD 10543115	Nursing: Advanced Clinical Practice	3	0-0

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NRSAD 10543116	Nursing Clinical Transition	2	0-0
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# Associate Degree Nursing (R.N.)

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

			Hrs/Week
		Credits/Units	LEC-LAB
<b>General Education Courses</b>			
<i>The following general education courses are required to successfully graduate from the Nursing-Associate Degree program. Some of these courses are required to petition and others may be completed prior to the start of the program or by the end of the first year of the program. Prospective students should refer to petition requirements and current students should refer to their Degree Progress Report for additional details regarding which general education program requirements must be taken to petition.</i>			
ENGLISH 20801201	English 1	3	3-0
SPEECH 10801198	Speech	3	3-0
SOC 20809203	Intro Sociology	3	3-0
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
<i>Choose from Microbiology or General Microbiology:</i>			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
<b>Practical Nursing and Licensure Requirements</b>			
<b>First Semester</b>			
NRSAD 31543301	Nursing Fundamentals - Practical Nursing Program	2	4-0
NRSAD 31543302	Nursing Skills - Practical Nursing Program	3	0-6
NRSAD 31543303	Nursing Pharmacology - Practical Nursing Program	2	4-0
NRSAD 31543304	Nursing: Intro to Clinical Practice	2	0-0
<b>Second Semester</b>			
NRSAD 31543305	Nursing Health Alterations - Practical Nursing Program	3	6-0
NRSAD 31543306	Nursing Health Promotion - Practical Nursing Program	3	6-0
NRSAD 31543307	Nursing: Clinical Care Across the Lifespan	2	0-0
NRSAD 31543308	Nursing: Intro to Clinical Care Management	2	0-0
<b>Prior to the Start of Third Semester Courses</b>			
NRSAD 10543164	Orientation Associate Degree Nursing	3	2-2
<b>Third Semester</b>			
NRSAD 10543109	Nursing: Complex Health Alterations 1	3	3-0
NRSAD 10543110	Nursing: Mental Health Community Concepts	2	2-0
NRSAD 10543111	Nursing: Intermediate Clinical Practice	3	0-0
NRSAD 10543112	Nursing Advanced Skills	1	0-2
<b>Fourth Semester</b>			
NRSAD 10543113	Nursing: Complex Health Alterations 2	3	3-0



## Madison Area Technical College

NRSAD 10543114	Nursing: Management and Professional Concepts	2	2-0
NRSAD 10543115	Nursing: Advanced Clinical Practice	3	0-0
NRSAD 10543116	Nursing Clinical Transition	2	0-0

# Audio Production

## Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
VICOM 10206131	Sound Production Techniques	3	0-6
VICOM 10206144	Audio Internship	1	0-0
VICOM 10206151	Advanced Audio Techniques	3	0-6
VICOM 10206153	Audio Project Management	3	2-2
JOURNAL 20801269	On-Air Performance	3	2-2

# Auto Collision Repair & Refinishing Technician

A Two Year Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
AUTOBODY 32405301	Basic Sheet Metal Repair & Welding Fundamentals	5	0-10
AUTOBODY 32405302	Refinishing 1	5	0-10
AUTOBODY 32405361	Collision Repair/Refinishing Theory 1	3	6-0
AUTOBODY 32405340	Collision Electrical Fundamentals	2	2-2
<b>Second Semester</b>			
AUTOBODY 32405303	Non-Structural Panel Repair & Glass Servicing	5	0-10
AUTOBODY 32405304	Refinishing 2/Trim & Hardware	5	0-10
AUTOBODY 32405341	Collision Mechanical Systems	2	2-2
AUTOBODY 32405363	Collision Repair and Refinishing Theory 2	3	6-0
<b>Third Semester</b>			
AUTOBODY 32405305	Auto Refinishing/Color Adjustment	5	0-10
AUTOBODY 32405306	Collision Structural Welding & Panel Replacement	5	0-10
AUTOBODY 32405311	Introduction to Airbrushing and Custom Painting	2	1-3
AUTOBODY 32405365	Collision Repair and Refinishing Theory 3	3	6-0
<b>Fourth Semester</b>			
AUTOBODY 32405307	Adv Collision Structural Repair	5	0-10
AUTOBODY 32405308	Collision Plastics/Composites & Adv Refinishing Applications	5	0-10
AUTOBODY 32405321	Advanced Airbrushing and Custom Painting	2	1-3
AUTOBODY 32405334	Collision Damage Analysis and Report Writing	3	6-0

# Auto Collision Repair and Refinish Technician

A One Year Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
<b>First Semester</b>			
AUTOBODY 32405301	Basic Sheet Metal Repair & Welding Fundamentals	5	0-10
AUTOBODY 32405302	Refinishing 1	5	0-10
AUTOBODY 32405340	Collision Electrical Fundamentals	2	2-2
AUTOBODY 32405361	Collision Repair/Refinishing Theory 1	3	6-0
<b>Second Semester</b>			
AUTOBODY 32405303	Non-Structural Panel Repair & Glass Servicing	5	0-10
AUTOBODY 32405304	Refinishing 2/Trim & Hardware	5	0-10
AUTOBODY 32405341	Collision Mechanical Systems	2	2-2
AUTOBODY 32405363	Collision Repair and Refinishing Theory 2	3	6-0

# Automotive Technician

## A Two Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MTLFAB 10457100	Metal Repair Techniques	2	0-4
AUTOTEC 10602100	Automotive Fundamentals	2	0-4
AUTOTEC 10602101	Automotive Service Procedures	3	0-6
AUTOTEC 10602125	Electrical and Electronics Systems 1	2	2-0
AUTOTEC 10602126	Electrical and Electronics Systems 2	2	0-4
AUTOTEC 10602166	Driveability 1	5	0-10
<b>Second Semester</b>			
AUTOTEC 10602156	Automotive Heating & Air Conditioning Systems	2	0-4
AUTOTEC 10602157	Technical Braking Systems	5	0-10
AUTOTEC 10602163	Steering and Suspension Systems	5	0-10
MATH 10804134	Mathematical Reasoning	3	2-2
<b>Third Semester</b>			
AUTOTEC 10602115	Hybrid and Alternative Fueled Vehicles	2	0-4
AUTOTEC 10602154	Automatic Transmissions	5	0-10
AUTOTEC 10602158	Service Management	1	0-2
AUTOTEC 10602153	Manual Drivetrains & Axles	4	0-8
PHYSICS 10806139	Survey of Physics	3	1-4
<b>Fourth Semester</b>			
AUTOTEC 10602150	Internal Combustion Engines	5	0-10
AUTOTEC 10602152	Driveability 2	5	0-10
AUTOTEC 10602162	Automobile Accessories	2	0-4

# Automotive Technology- Comprehensive

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
AUTOTEC 10602100	Automotive Fundamentals	2	0-4
AUTOTEC 10602101	Automotive Service Procedures	3	0-6
AUTOTEC 10602125	Electrical and Electronics Systems 1	2	2-0
AUTOTEC 10602126	Electrical and Electronics Systems 2	2	0-4
AUTOTEC 10602156	Automotive Heating and Air Conditioning Systems	2	0-4
AUTOTEC 10602158	Service Management	1	0-2
AUTOTEC 10602166	Driveability 1	5	0-10
<b>Second Semester</b>			
MTLFAB 10457100	Metal Repair Techniques	2	0-4
AUTOTEC 10602157	Technical Braking Systems	5	0-10
AUTOTEC 10602163	Steering and Suspension Systems	5	0-10
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804134	Mathematical Reasoning	3	2-2
<b>Third Semester</b>			
AUTOTEC 10602153	Manual Drivetrains & Axles	4	0-8
AUTOTEC 10602154	Automatic Transmissions	5	0-10
AUTOTEC 10602162	Automobile Accessories	2	0-4
PHYSICS 10806139	Survey of Physics	3	1-4
ECON 10809195	Economics	3	3-0
<b>Fourth Semester</b>			
AUTOTEC 10602115	Hybrid and Alternative Fueled Vehicles	2	0-4
AUTOTEC 10602150	Internal Combustion Engines	5	0-10
AUTOTEC 10602152	Driveability 2	5	0-10
ENGLISH 10801197	Technical Reporting	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

## Baking & Decorative Arts

### A One Year Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Prior to Start of Program</b>			
CUL ARTS 10316101	Principles Of Sanitation	1	1-0
<b>First Semester</b>			
BAKING 31314302	Yeast Breads	3	0-6
BAKING 31314306	Bakery Retail	1	0-2
BAKING 31314309	Baking Principles	2	4-0
BAKING 31314315	Intro to Baking	3	0-6
BAKING 31314375	Experimental Baking	1	0-2
BAKING 31314384	Cake Decorating	3	0-6
<b>Second Semester</b>			
BAKING 31314305	Chocolate	2	0-4
BAKING 31314335	Specialty Cakes & Miniatures	3	0-6
BAKING 31314345	Artisan Breads & Breakfast Pastries	3	0-6
BAKING 31314355	Bakery Production	3	0-6
BAKING 31314388	Advanced Cake Decorating	2	0-4
BAKING 31314389	Baking Seminar	1	2-0
CUL ARTS 10316152	Nutrition	1	1-0

## Basic Early Childhood Educator

A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
EARLYCHL 10307167	ECE: Health, Safety, & Nutrition	3	3-0
EARLYCHL 10307108	ECE: Early Language and Literacy	3	1-0
EARLYCHL 10307174	ECE: Introductory Practicum	3	1-0



## Basic Industrial Power

### A Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
INSAFE 10449100	Safety for Industry	1	0-2
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462105	Fluid Power 2 for Industry	2	0-4
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804107	College Mathematics	3	2-2

# Biotechnology Intensive Post- baccalaureate Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	0-6
BIOTECH 10007122	Protein Bioseparations Methods	3	0-6
BIOTECH 10007123	Cell Culturing	3	0-6
BIOTECH 10007124	Molecular Biology 1	3	0-6
BIOTECH 10007136	Laboratory Math for Biotechnology	1	0-2
BIOTECH 10007152	Making Biotech Products in a Quality Environment	2	0-4

# Biotechnology Lab Support Assistant Apprentice

Apprenticeship Completion

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	0-6
BIOTECH 10007108	Hazardous Materials - Biotechnology	1	0.5-1

# Biotechnology Laboratory Support Assistant

A Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Courses</b>			
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	0-6
BIOTECH 10007105	Bioprocess Technology	3	0-6
BIOTECH 10007108	Hazardous Materials - Biotechnology	1	0.5-1
BIOTECH 10007111	Biotechnology Career Seminar	1	1-0
BIOTECH 10007136	Laboratory Math for Biotechnology	1	0-2

# Biotechnology Laboratory Technician

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	0-6
BIOTECH 10007108	Hazardous Materials - Biotechnology	1	0.5-1
BIOTECH 10007110	Biotechnology Applications	1	1-0
BIOTECH 10007115	General Cell Biology	4	3-2
BIOTECH 10007136	Laboratory Math for Biotechnology	1	0-2
ENGLISH 10801195	Written Communication	3	3-0
<i>Choose from one of the following courses:</i>			
CHEM 10806127	Chemistry 1	4	3-2
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
<b>Second Semester</b>			
BIOTECH 10007104	Chromatography Techniques	3	0-6
BIOTECH 10007105	Bioprocess Technology	3	0-6
BIOTECH 10007111	Biotechnology Career Seminar	1	1-0
BIOTECH 10007174	Applied Microbiology	4	2-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<i>Choose from one of the following courses:</i>			
CHEM 10806129	Chemistry 2	4	3-2
CHEM 20806216	Chemistry for Biotechnology	3	2-2
<b>Third Semester</b>			
BIOTECH 10007122	Protein Bioseparations Methods	3	0-6
BIOTECH 10007123	Cell Culturing	3	0-6
BIOTECH 10007124	Molecular Biology 1	3	0-6
BIOTECH 10007152	Making Biotech Products in a Quality Environment	2	0-4
SOC 10809197	Contemporary Amer Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
BIOTECH 10007112	Biotechnology Employment Skills	1	1-0
<b>Fourth Semester</b>			
BIOTECH 10007121	Applied Biochemistry	3	2-2
BIOTECH 10007125	Research Methods in Molecular Biology	3	0-6
BIOTECH 10007126	Occupational Work Experience	3	0-0
ECON 10809195	Economics	3	3-0
	Elective	3	
<i>Recommended Electives</i>			
BIOTECH 10007137	Selected Topics in HPLC	1	0-2
BIOTECH 10007155	Quality Regulations and Standards for Biotechnology	2	2-0
BIOLOGY 20806203	Introductory Zoology	5	4-2

**Biotechnology Post-  
 baccalaureate  
 Certificate**

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

Courses		Credits/Units	Hrs/Week
			LEC-LAB
<b>Courses</b>			
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	0-6
<b>Courses</b>			
<i>In addition, participants choose a minimum of 12 additional credits from the following list:</i>			
BIOTECH 10007104	Chromatography Techniques	3	0-6
BIOTECH 10007105	Bioprocess Technology	3	0-6
BIOTECH 10007117	Advanced Human Stem Cell Methods	3	0-6
BIOTECH 10007118	Introduction to Human Stem Cell Concepts	1	1-0
BIOTECH 10007119	Advanced Human Stem Cell Concepts	1	1-0
BIOTECH 10007121	Applied Biochemistry	3	2-2
BIOTECH 10007122	Protein Bioseparations Methods	3	0-6
BIOTECH 10007123	Cell Culturing	3	0-6
BIOTECH 10007124	Molecular Biology 1	3	0-6
BIOTECH 10007125	Research Methods in Molecular Biology	3	0-6
BIOTECH 10007136	Laboratory Math for Biotechnology	1	0-2
BIOTECH 10007137	Selected Topics in HPLC	1	0-2
BIOTECH 10007152	Making Biotech Products in a Quality Environment	2	0-4
BIOTECH 10007155	Quality Regulations and Standards for Biotechnology	2	2-0
BIOTECH 10007174	Applied Microbiology	4	2-4
BUSADM 10102134	Introduction to Business	3	3-0

## Bricklaying/Masonry Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
BRCKMSN 50408510	Tech Brick Sem 1	2	3-1
<b>Second Semester</b>			
BRCKMSN 50408511	Tech Brick Sem 2	2	3-1
<b>Third Semester</b>			
BRCKMSN 50408512	Tech Brick Sem 3	2	3-1
<b>Fourth Semester</b>			
BRCKMSN 50408513	Tech Brick Sem 4	2	3-1
<b>Fifth Semester</b>			
BRCKMSN 50408514	Tech Brick Sem 5	2	3-1
<b>Sixth Semester</b>			
BRCKMSN 50408515	Tech Brick Sem 6	2	3-1

## Building Blocks of Well-Being Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
ADMINPRF 10106100	Mindset for Success	3	3-0
SMLBUS 10145123	Leading Your Life with Emotional Intelligence	3	3-0
SMLBUS 10145131	Mastering Mindfulness: The Power of Living in the Present	1	1-0
SMLBUS 10145132	Mastering Mindfulness: Pathway to Personal Development	1	1-0
SMLBUS 10145133	Mastering Mindfulness: Strength and Self-Reflection	1	1-0



## Business Communication Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
BUSADM 10102114	Business Communication	3	3-0
COMPSoft 10103165	Outlook	1	0.27-1.5
COMPSoft 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106107	Business Document Applications	3	1-4
ENGLISH 10801195	Written Communication	3	3-0

# Business Management

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
ACCTG 10101111	Accounting 1 - Principles	4	4-0
BUSADM 10102134	Introduction to Business	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
<b>Second Semester</b>			
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
ACCTG 10101118	Management Accounting	4	4-0
BUSADM 10102135	Project Management - Fundamentals	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
<b>Third Semester</b>			
BUSADM 10102114	Business Communication	3	3-0
BUSADM 10102143	Management Techniques	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
FINANCE 10114126	Corporate Finance	3	3-0
<i>Students must complete six total credits from one of the Business-Related Emphasis Areas listed below. Three credits should be completed during third semester and three credits should be completed during fourth semester. See below for course options.</i>			
<b>Fourth Semester</b>			
BUSADM 10102104	Business Statistics	3	3-0
BUSADM 10102132	Strategic Leadership	3	3-0
BUSADM 10102133	Topics in Tactical Management	3	3-0
ECON 10809195	Economics	3	3-0
<i>Students must complete six total credits from one of the Business-Related Emphasis Areas listed below. Three credits should be completed during third semester and three credits should be completed during fourth semester. See below for course options.</i>			
<b>Business-Related Emphasis Areas</b>			
<i>Students must complete six total credits from one of the Business-Related Emphasis Areas.</i>			
<i>Accounting Emphasis Area Course Options</i>			
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101123	Tax 1	4	4-0
ACCTG 10101138	Accounting And Payroll Systems	3	2-2
ACCTG 10101139	QuickBooks-Beginning	1	0.5-1
ACCTG 10101141	QuickBooks-Intermediate	1	0.5-1
<i>Finance Emphasis Area Course Options</i>			
FINANCE 10114128	Financial Institutions	3	3-0
FINANCE 10114130	Personal Finance	3	3-0

## Madison Area Technical College

FINANCE 10114140	Investments	3	3-0
<i>Human Resources Emphasis Area Course Options</i>			
HRMGT 10116147	Wage, Salary & Benefits Admin	3	3-0
HRMGT 10116148	Employee Relations	3	3-0
HRMGT 10116149	Effective Staffing	3	3-0
HRMGT 10116152	Organizational Training and Development	3	3-0
HRMGT 10116168	Employment Law	3	3-0
<i>Marketing Emphasis Area Course Options</i>			
MKTG 10104104	Selling Principles	3	3-0
MKTG 10104114	Social Media Marketing	3	3-0
MKTG 10104125	Advertising Principles	3	3-0
MKTG 10104126	Intro to Public Relations	3	3-0
MKTG 10104162	Advanced Social and Mobile Marketing	3	3-0
MKTG 10104169	Digital Marketing	3	3-0
MKTG 10104802	Honors - Marketing	2	0-0
<i>Medical Administrative Emphasis Area Course Options</i>			
COMPSTOFT 10103169	Collaboration Tools	1	0.27-1.5
MEDADMIN 10160165	Medical Administrative Procedures	3	1-4
MEDADMIN 10160178	Medical Language for the Business Professional 1	3	2-2
<i>Microsoft Skills Emphasis Area Course Options</i>			
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
ADMINPRF 10106240	Business Information Management	3	1-4
COMPSTOFT 10103121	Windows 10	1	0.27-1.5
COMPSTOFT 10103136	Word Intermediate	1	0.27-1.5
COMPSTOFT 10103137	Word Beginning	1	0.27-1.5
COMPSTOFT 10103143	PowerPoint	1	0.27-1.5
COMPSTOFT 10103145	Access	1	0.27-1.5
COMPSTOFT 10103165	Outlook	1	0.27-1.5
COMPSTOFT 10103169	Collaboration Tools	1	0.27-1.5
<i>Project Management Emphasis Area Course Options</i>			
COMPSTOFT 10103186	MS (Microsoft) Project	2	0.5-3
COMPSTOFT 10103169	Collaboration Tools	1	0.27-1.5
BUSADM 10102131	Project Management and Sustainable Change	3	3-0
<i>Real Estate Emphasis Area Course Options</i>			
RLEST 10194182	Real Estate Law and Sales	4	4-0
RLEST 10194185	Real Estate Broker Management	4	4-0
<i>Risk Management &amp; Insurance Emphasis Area Course Options</i>			
INSMGT 10162125	Intro to Property & Casualty Insurance - PreLicensing	3	3-0
INSMGT 10162126	Introduction to Loss Investigator (AIC 33)	3	3-0
INSMGT 10162131	Intro to Life & Health Insurance	3	3-0
INSMGT 10162133	Managing Business Risks	3	3-0
INSMGT 10162135	Detecting Employee Fraud	3	3-0
<i>Small Business Emphasis Area Course Options</i>			
SMLBUS 10145102	Small Business Development	3	3-0
SMLBUS 10145105	Operations Management	3	3-0
SMLBUS 10145117	Introduction to Entrepreneurship	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
<i>No Emphasis Area Course Options</i>			
<i>Students who do not choose one of the above-listed Business-Related Emphasis Areas must complete 6 credits of the following.</i>			
BUSADM 10102160	Business Law 1	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
	Elective	3	

## Business Plan Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
SMLBUS 10145102	Small Business Development	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
<i>Choose one of the following courses:</i>			
SMLBUS 10145108	Field Experience	2	1-0
SMLBUS 10145117	Introduction to Entrepreneurship	3	3-0

# Business Software Essentials for Event Professionals

Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Courses</b>			
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
<b>Choose one of the following Mastering Mindfulness courses.</b>			
SMLBUS 10145131	Mastering Mindfulness: The Power of Living in the Present	1	1-0
SMLBUS 10145132	Mastering Mindfulness: Pathway to Personal Development	1	1-0
SMLBUS 10145133	Mastering Mindfulness: Strength and Self-Reflection	1	1-0

# Cabinetmaking and Millwork

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
CABMIL 31409328	Woodworking 1A: Machinery & Methods	2	1-3
CABMIL 31409329	Woodworking 1B: Machinery & Methods	3	1-5
CABMIL 31409331	Woodworking 2: Materials and Processes	5	2-8
CABMIL 31409337	Workplace Safety	1	0-2
CABMIL 31409341	Wood Finishing Applications and Methods	1	1-1
CABMIL 31409342	Laminates 1	1	1-1
CABMIL 31409100	Laminates 2	1	1-1
CABMIL 31409381	Drawing 1	1	0-2
CABMIL 31409382	Drawing 2	1	0-2
<b>Second Semester</b>			
CABMIL 31409101	Surfaces 1	1	1-1
CABMIL 31409102	Surfaces 2	1	1-1
CABMIL 31409332	Cabinetmaking, Millwork & Furniture 1	5	2-8
CABMIL 31409333	Cabinetmaking, Millwork, and Furniture 2	5	2-8
CABMIL 31409340	Tool & Machine Maintenance	1	1-1
CABMIL 31409345	Wood Finishing Processes and Colorants	1	0-2
CABMIL 31409383	AutoCAD for Cabinet Drawing 1	1	0-2
CABMIL 31409384	AutoCAD for Cabinet Drawing 2	1	0-2

# Carpentry Techniques

## A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
CONST 31410301	Introduction to Construction	5	2-8
CONST 31410328	Construction Techniques 1	5	2-8
CONST 31410337	Workplace Safety	1	0-2
CONST 31410399	Fundamentals Of Construction	3	1-5
COMM 31801356	Communications 1	1	2-0
CONST 31410379	Construction Math	1	2-0

## Child Care Services

A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
EARLYCHL 10307148	ECE: Foundations of Early Childhood Education	3	3-0
EARLYCHL 10307151	ECE: Infant & Toddler Development	3	3-0
EARLYCHL 10307108	ECE: Early Language and Literacy	3	1-0
EARLYCHL 10307167	ECE: Health, Safety, & Nutrition	3	3-0
EARLYCHL 10307174	ECE: Introductory Practicum	3	1-0
<b>Second Semester</b>			
EARLYCHL 10307110	ECE: Social Studies, Art, and Music	3	2-2
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307188	ECE: Guiding Children's Behavior	3	3-1
EARLYCHL 10307175	ECE: Preschool Practicum	3	1-0
ENGLISH 10801195	Written Communication	3	3-0



# Civil Engineering Technology

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
CIVILET 10607120	Methods In Civil Engineering	2	2-0
CIVILET 10607125	Intro To CAD for Civil Engineering	2	1-2
CIVILET 10607149	Aggregates And Concrete	2	1-2
CIVILET 10607155	Survey 1	3	1.5-3
MATH 10804107	College Mathematics	3	2-2
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Second Semester</b>			
CIVILET 10607147	Civil Drawing 1	3	1-4
CIVILET 10607156	Survey 2	3	2-2
CIVILET 10607160	Soils	2	1-2
CIVILET 10607178	Statics and Mechanics for Civil Engineering	2	2-0
CIVILET 10607193	Career Development	1	1-0
ENGLISH 10801195	Written Communication	3	3-0
ECON 10809195	Economics	3	3-0
<b>Third Semester</b>			
CIVILET 10607140	Strength of Materials for Civil Engineering	2	2-0
CIVILET 10607148	Civil Drawing 2	2	1-2
CIVILET 10607158	Survey 3	3	1-4
CIVILET 10607172	Stormwater Management	2	1-2
CIVILET 10607177	Legal Elements Engineering	2	2-0
ENGLISH 10801197	Technical Reporting	3	3-0
	Elective	3	
<b>Fourth Semester</b>			
CIVILET 10607133	Estimating	3	2-2
CIVILET 10607161	Project	3	1-0
CIVILET 10607171	Construction Materials	2	1-2
CIVILET 10607179	Intro to Geographical Information Systems (GIS)	2	1-2
CIVILET 10607182	Water Supply and Sewerage	2	1-2
	Elective	3	

## Clinical Ophthalmic Assistant Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
OPTOMET 31516325	Optical Dispensing 1	3	3-3
OPTOMET 31516301	Ophthalmic Pre-Testing	3	3-3
OPTOMET 31516305	Basic Optical Concepts	3	3-3
OPTOMET 31516315	Ocular Anatomy	2	3-1
OPTOMET 31516339	Human Relations - Optometric Technician Program	1	2-0
<b>Second Semester</b>			
OPTOMET 31516327	Clinical Ophthalmic Procedures	2	0-4
OPTOMET 31516326	Optical Dispensing 2	2	2-2
OPTOMET 31516330	Contact Lenses	3	3-3
OPTOMET 31516335	Ophthalmic Specialty Testing	3	4-2
OPTOMET 31516340	Patient Relations/Pract Manage	2	4-0
OPTOMET 31516345	Preclinical	2	0-4
OPTOMET 31516350	Clinical Experience	3	0-0
<b>Third Semester</b>			
OPTOMET 31516351	Clinical Experience 2	3	0-0

## Construction Essentials

### A Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
CONST 31410337	Workplace Safety	1	0-2
CONST 31410399	Fundamentals Of Construction	3	1-5
COMM 31801356	Communications 1	1	2-0
CONST 31410379	Construction Math	1	2-0

# Construction and Remodeling

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
CONST 31410338	Nailin' It--Success in Construction & Remodeling	1	1-1
CONST 31410301	Introduction to Construction	5	2-8
CONST 31410302	Plans, Site and Formwork	2	1-3
CONST 31410309	Plan Reading and Drawing	1	1-1
CONST 31410328	Construction Techniques 1	5	2-8
CONST 31410337	Workplace Safety	1	0-2
CONST 31410379	Construction Math	1	2-0
<i>(Note: Program evening students take 31-410-399 Fundamentals of Construction in place of 31-410-410 and 31-410-411.)</i>			
CONST 31410410	Fundamentals of Construction 1	2	1-3
<b>Second Semester</b>			
COMM 31801356	Communications 1	1	2-0
CONST 31410308	Construction Industry Codes and Regulations	2	2-2
CONST 31410329	Construction Techniques 2	5	2-8
CONST 31410335	Intermediate Carpentry Lab	2	1-3
<i>(Note: Program evening students take 31-410-399 Fundamentals of Construction in place of 31-410-410 and 31-410-411.)</i>			
CONST 31410411	Fundamentals of Construction 2	1	0-2
<b>Course Selectives (3 credits required)</b>			
	Select 3 courses from the Course Selectives list below. (Recommended during second semester in program.)	3	
CONST 31410363	Building Science and Sustainability	1	2-0
CONST 31410385	Introduction to 3D Computer Assisted Drafting	1	1-1
CONST 31410311	Commercial Construction	1	0-2
CONST 31410310	Materials and Estimating 2	1	2-0
CONST 31410324	Remodeling Techniques	1	1-1

# Cosmetology

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Prior to start of program</b>			
COSMET 10502330	Making the Cut	1	1-0
<b>First Semester</b>			
COSMET 31502351	Introduction to Salon Services & Infection Control	2	0-4
COSMET 31502352	Basic Hair and Nail Services 1	2	0-4
COSMET 31502331	Basic Hair Color	4	6-2
COSMET 31502332	Haircutting Concepts	4	6-2
COSMET 31502333	Nail Technology	2	4-0
COSMET 31502334	Cosmetology Science	1	2-0
COSMET 31502397	Basic Hair Design	2	4-0
<b>Second Semester</b>			
COSMET 31502353	Basic Hair and Nail Services 2	3	0-6
COSMET 31502354	Intermediate Hair, Nail, and Facial Services 1	4	0-8
COSMET 31502399	Highlighting Techniques	2	0-4
COSMET 31502335	Aesthetic & Makeup Artistry	2	4-0
COSMET 31502336	Long Hair Design	1	2-0
COSMET 31502396	Advanced Haircutting	1	2-0
COSMET 31502398	Client Relations	1	2-0
<b>Third Semester</b>			
COSMET 31502355	Intermediate Hair, Nail, and Facial Services 2	4	0-8
COSMET 31502356	Advanced Hair, Nail and Aesthetic Services	4	0-8
COSMET 31502357	Mastery Hair, Nail, and Aesthetic Services	4	0-8
COSMET 31502344	Industry Trends	1	2-0
COSMET 31502337	Chemical Texturizing	2	4-0
COSMET 31502393	Salon Marketing	1	2-0
COSMET 31502395	State Board Review/WI Laws & Rules	1	2-0

## Cosmetology Apprentice Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
COSMET 50502521	Trichology, Bacteriology, Sterilization and Sanitation	2	4-0
<b>Second Semester</b>			
COSMET 50502522	Hair Cutting, Design and Chemical Services	2	4-0
<b>Third Semester</b>			
COSMET 50502523	Advanced Chemical Services and Salon Business	2	4-0
<b>Fourth Semester</b>			
COSMET 50502524	Facial Anatomy, Skin & Nail Care, and State Regulations	2	4-0

# Criminal Justice Studies

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
CRIMJUST 10504170	Introduction to Corrections - Criminal Justice	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804134	Mathematical Reasoning	3	2-2
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Second Semester</b>			
CRIMJUST 10504171	Private Sector Security	3	3-0
CRIMJUST 10504902	Criminal Law	3	3-0
CRIMJUST 10504914	Juvenile Justice	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
<b>Third Semester</b>			
CRIMJUST 10504105	Professional Development for Criminal Justice	3	3-0
CRIMJUST 10504906	Criminal Investigation Theory	3	2-2
CRIMJUST 10504909	Foundations of Policing	3	3-0
CRIMJUST 10504911	Interviewing	3	3-0
	Elective	3	
<b>Fourth Semester</b>			
CRIMJUST 10504912	Ethics in Criminal Justice	3	3-0
CRIMJUST 10504143	Criminology for Law Enforcement	3	3-0
CRIMJUST 10504910	Diversity and Criminal Justice	3	3-0
CRIMJUST 10504917	Police Community Relations	3	3-0
	Elective	3	
<b>Recommended Electives</b>			
<i>Electives must be 10- or 20- level courses. It is recommended to take one each in the third and fourth semester.</i>			
CRIMJUST 10504180	Internship	3	0-0
CRIMJUST 10504905	Report Writing	3	3-0
CRIMJUST 10504923	HPS Health & Fitness Readiness	3	2-2
CRIMJUST 10504913	Restorative Justice and Victimology in Criminal Justice	3	3-0

# Criminal Justice-Law Enforcement 720 Academy

A Less Than One Year Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
CRIMJUST 30504310	Application of Investigations	1	0.83-1.16
CRIMJUST 30504311	Application of Traffic Response	3	2-4
CRIMJUST 30504312	Physical Fitness	1	0.22-1.77
CRIMJUST 30504313	Overview of Criminal Justice	1	1.88-0.11
CRIMJUST 30504314	Overview of Investigations	2	3.11-0.88
CRIMJUST 30504315	Overview of Patrol Response	2	2.61-1.38
CRIMJUST 30504316	Overview of Tactics	1	1-1
CRIMJUST 30504317	Principles of Emergency Vehicle Response	2	1-3
CRIMJUST 30504318	Principles of Investigations	1	1.38-0.61
CRIMJUST 30504320	Principles of Tactics	5	1.05-8.94
CRIMJUST 30504321	Sensitive Crimes	2	3.55-0.44



# Culinary Arts

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
CUL ARTS 10316101	Principles Of Sanitation	1	1-0
CUL ARTS 10316106	Food Theory	2	2-0
CUL ARTS 10316108	Culinary Baking Fundamentals	1	1-0
CUL ARTS 10316111	Professional Cooking 1	4	0-8
CUL ARTS 10316115	Culinary Baking Lab	2	0-4
CUL ARTS 10316140	Menu Planning	1	1-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Second Semester</b>			
ACCTG 10101106	Accounting Fundamentals	3	3-0
CUL ARTS 10316121	Professional Cooking 2	4	0-8
CUL ARTS 10316133	Garde Manger/Decorative Foods	2	0-4
CUL ARTS 10316139	Catering	2	2-0
CUL ARTS 10316152	Nutrition	1	1-0
ENGLISH 10801195	Written Communication	3	3-0
<b>Third (Summer) Term</b>			
CUL ARTS 10316194	Culinary Internship	2	0-0
<b>Fourth Semester</b>			
CUL ARTS 10316134	Cost Control	3	3-0
CUL ARTS 10316104	Advanced Skills Lab 1	3	0-6
CUL ARTS 10316158	Food Purchasing Analysis	1	1-0
CUL ARTS 10316132	Waitstaff Training	2	0-4
MATH 10804123	Math with Business Applications	3	3-0
SOC 10809197	Contemporary Amer Society	3	3-0
	Elective	3	
<b>Fifth Semester</b>			
HOSPT 10109125	Hospitality Leadership	3	3-0
CUL ARTS 10316130	Advanced Skills Lab 2	4	1-6
CUL ARTS 10316135	Dining Room Operations	2	0-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ECON 10809195	Economics	3	3-0
<b>Recommended Electives</b>			
HOSPT 10109136	Hospitality Law	3	3-0
BAKING 10314130	Dessert Plating	1	0-2
CUL ARTS 10314130	Dessert Plating	1	0-2
CUL ARTS 10316118	Meat Cutting	2	1-2
CUL ARTS 10316178	Americana Cuisine	2	0-4

**Madison Area Technical College**

CUL ARTS 10316189	Breakfast Cookery	1	0-2
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# Culinary Production Specialist

## A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
CUL ARTS 10316101	Principles Of Sanitation	1	1-0
CUL ARTS 10316106	Food Theory	2	2-0
CUL ARTS 10316108	Culinary Baking Fundamentals	1	1-0
CUL ARTS 10316111	Professional Cooking 1	4	0-8
CUL ARTS 10316115	Culinary Baking Lab	2	0-4
CUL ARTS 10316140	Menu Planning	1	1-0
<b>Second Semester</b>			
ACCTG 10101106	Accounting Fundamentals	3	3-0
CUL ARTS 10316121	Professional Cooking 2	4	0-8
CUL ARTS 10316133	Garde Manger/Decorative Foods	2	0-4
CUL ARTS 10316139	Catering	2	2-0
CUL ARTS 10316152	Nutrition	1	1-0
ENGLISH 10801195	Written Communication	3	3-0
<b>Third/Summer Semester</b>			
CUL ARTS 10316194	Culinary Internship	2	0-0

# Cybersecurity Analyst

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITTECSUP 10154104	A+ Hardware Essentials	3	2-2
<b>Second Semester</b>			
ITNET 10150121	Intro to Cisco Networking	3	2-2
<b>Third Semester</b>			
ITTECSUP 10154171	Windows Server 1	3	2-2
<b>Fourth Semester</b>			
ITSECUR 10151137	Intrusion Detection	3	2-2

## Data Analyst Apprentice

### Apprenticeship Completion

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ITDATA 10156124	Introduction to Databases	3	2-2
<b>Second Semester</b>			
ITDATA 10156125	SQL Database Programming	3	2-2
<b>Third Semester</b>			
ITDATA 10156128	Big Data Fundamentals	3	2-2
<b>Fourth Semester</b>			
ITDATA 10156129	Advanced Big Data Topics	3	2-2

## Data Analytics Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
SOC 20809291	Technology and Society	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
MATH 20804217	Introduction to Programming in Python	3	3-0

## Dental Assistant

### A Less Than One Year Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
DENTHYG 10508101	Dental Health Safety	1	0-2
DENTAST 31508302	Dental Chairside	5	4-6
DENTHYG 10508113	Dental Materials	2	1-2
DENTHYG 10508304	Dental & General Anatomy	2	2-0
DENTHYG 10508103	Dental Radiography	2	1-2
DENTAST 31508312	Dental Assistant Clinical Lab	1	0-2
DENTAST 31508313	Dental Assistant Clinical	2	2-0
DENTAST 31508307	Dental Assistant Professional	1	2-0

# Dental Hygienist

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Pre-Dental Hygienist Courses</b>			
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
<i>Choose from Microbiology or General Microbiology:</i>			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
<b>Summer Semester</b>			
<i>The following must be taken prior to fall/first semester:</i>			
DENTHYG 10508101	Dental Health Safety	1	0-2
<b>First Semester</b>			
DENTHYG 10508102	Oral Anatomy, Embry, Histology	4	4-0
DENTHYG 10508103	Dental Radiography	2	1-2
DENTHYG 10508105	Dental Hygiene Process 1	4	2-0
<b>Second Semester</b>			
DENTHYG 10508106	Dental Hygiene Process 2	4	2-0
DENTHYG 10508108	Periodontology	3	3-0
DENTHYG 10508109	Cariology	1	1-0
DENTHYG 10508110	Nutrition and Dental Health	2	2-0
DENTHYG 10508113	Dental Materials	2	1-2
PSYCH 20809231	Intro Psychology	3	3-0
<b>Third Semester</b>			
DENTHYG 10508111	General and Oral Pathology	3	3-0
DENTHYG 10508112	Dental Hygiene Process 3	5	1-0
DENTHYG 10508114	Dental Pharmacology	2	2-0
DENTHYG 10508115	Community Dental Health	2	2-0
DENTHYG 10508118	Dental Anxiety and Pain Management	2	1-2
SOC 20809203	Intro Sociology	3	3-0
<b>Fourth Semester</b>			
DENTHYG 10508107	Dental Hygiene Ethics & Profes	1	1-0
DENTHYG 10508117	Dental Hygiene Process 4	4	0-0
ENGLISH 10801195	Written Communication	3	3-0
SPEECH 10801198	Speech	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
	Elective	1	



# Diesel & Heavy Equipment Technician

A Two Year Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Pre-Program Course</b>			
<i>A grade of C or better in Diesel Shop Skills Fundamentals is required as pre-requisite to courses in the program.</i>			
DIESEL 10412100	Diesel Shop Skills Fundamentals	2	1-2
<b>First Semester</b>			
MATH 10804107	College Mathematics	3	2-2
DIESEL 10412110	Metalworking for Heavy-Duty Applications	2	0-4
DIESEL 10412155	Heavy Duty Drivetrains	4	0-8
DIESEL 10412164	Brake and Suspension Systems	4	0-8
<b>Second Semester</b>			
DIESEL 10412137	Preventive Maintenance Inspections	4	3-2
DIESEL 10412144	Fundamental Diesel Electrical/Electronics Systems	3	0-6
DIESEL 10412145	Electrical/Electronics Systems Diagnostics	3	0-6
ENGLISH 10801195	Written Communication	3	3-0
<b>Third/Summer Semester</b>			
DIESEL 10412190	Diesel Equipment Laboratory Experience 1	1	0-2
<b>Fourth Semester</b>			
DIESEL 10412125	Cab Climate Control and Refrigeration Systems	3	1-4
DIESEL 10412138	Diesel Shop Management	2	2-0
DIESEL 10412175	Fuel Systems	2	0-4
DIESEL 10412177	Diesel Engine Diagnostics	3	0-6
DIESEL 10412188	Electronic Control Systems	3	0-6
<b>Fifth Semester</b>			
DIESEL 10412112	Mobile Hydraulics	3	2-2
DIESEL 10412184	Diesel Engine Technology	2	0-4
DIESEL 10412185	Diesel Engine Repair	4	0-8
DIESEL 10412189	Heavy Duty Emission Control Systems	3	1-4

# Diesel Equipment Technology

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

			Hrs/Week
		Credits/Units	LEC-LAB
<b>Pre-Program Course</b>			
<i>A grade of C or better in Diesel Shop Skills Fundamentals is required as pre-requisite to courses in the program.</i>			
DIESEL 10412100	Diesel Shop Skills Fundamentals	2	1-2
<b>First Semester</b>			
DIESEL 10412110	Metalworking for Heavy-Duty Applications	2	0-4
DIESEL 10412137	Preventive Maintenance Inspections	4	3-2
DIESEL 10412144	Fundamental Diesel Electrical/Electronics Systems	3	0-6
DIESEL 10412145	Electrical/Electronics Systems Diagnostics	3	0-6
MATH 10804107	College Mathematics	3	2-2
<b>Second Semester</b>			
DIESEL 10412112	Mobile Hydraulics	3	2-2
DIESEL 10412155	Heavy Duty Drivetrains	4	0-8
DIESEL 10412164	Brake and Suspension Systems	4	0-8
ENGLISH 10801195	Written Communication	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
<b>Third/Summer Semester</b>			
DIESEL 10412190	Diesel Equipment Laboratory Experience 1	1	0-2
DIESEL 10412195	Occupational Experience 1 - Diesel	2	0-0
<b>Fourth Semester</b>			
DIESEL 10412184	Diesel Engine Technology	2	0-4
DIESEL 10412185	Diesel Engine Repair	4	0-8
DIESEL 10412189	Heavy Duty Emission Control Systems	3	1-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Fifth Semester</b>			
DIESEL 10412125	Cab Climate Control and Refrigeration Systems	3	1-4
DIESEL 10412138	Diesel Shop Management	2	2-0
DIESEL 10412175	Fuel Systems	2	0-4
DIESEL 10412177	Diesel Engine Diagnostics	3	0-6
DIESEL 10412188	Electronic Control Systems	3	0-6
PSYCH 10809199	Psychology Of Human Relations	3	3-0

# Digital Marketing

## A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104114	Social Media Marketing	3	3-0
MKTG 10104164	Marketing Digital Design	3	3-0
MKTG 10104125	Advertising Principles	3	3-0
<b>Second Semester</b>			
MKTG 10104103	Marketing Research	3	3-0
MKTG 10104115	Capstone Campaign	3	3-0
MKTG 10104126	Introduction to Public Relations	3	3-0
MKTG 10104162	Advanced Social and Mobile Marketing	3	3-0
MKTG 10104169	Digital Marketing	3	3-0

# Digital Marketing Leadership - Advanced Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Required Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
MKTG 10104111	Digital Innovations	3	3-0
MKTG 10104336	Digital Strategic Planning	3	3-0
MKTG 10104337	Content Marketing	3	3-0
MKTG 10104338	Digital Analytics	3	3-0

# Early Childhood Education

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
EARLYCHL 10307148	ECE: Foundations of Early Childhood Education	3	3-0
EARLYCHL 10307151	ECE: Infant & Toddler Dev	3	3-0
EARLYCHL 10307108	ECE: Early Language and Literacy	3	1-0
EARLYCHL 10307167	ECE: Health, Safety, & Nutrition	3	3-0
EARLYCHL 10307174	ECE: Introductory Practicum	3	1-0
<b>Second Semester</b>			
EARLYCHL 10307110	ECE: Social Studies, Art and Music	3	2-2
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307188	ECE: Guiding Child Behavior	3	3-1
EARLYCHL 10307175	ECE: Preschool Practicum	3	1-0
ENGLISH 10801195	Written Communication	3	3-0
<b>Third Semester</b>			
EARLYCHL 10307112	ECE: STEM (Science, Technology, Engineering, and Mathematics)	3	2-2
EARLYCHL 10307177	ECE: Intermediate Practicum	3	1-0
MATH 10804134	Mathematical Reasoning	3	2-2
SOC 10809172	Introduction to Diversity Studies	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Fourth Semester</b>			
EARLYCHL 10307187	ECE: Children w diff Abilities	3	3-0
EARLYCHL 10307195	ECE: Family & Community Relations	3	3-0
EARLYCHL 10307199	ECE: Advanced Practicum	3	0-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
SOC 10809197	Contemporary Amer Society	3	3-0

# Early Childhood Education Administrator Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
<b>First Semester</b>			
EARLYCHL 10307204	ECE: Child Care Admin and Supervision	3	3-0
EARLYCHL 10307181	ECE: Child Care Operations Management	3	3-0
<b>Second Semester</b>			
EARLYCHL 10307182	ECE: Child Care Financial Management	3	3-0
EARLYCHL 10307184	ECE: Child Care External Environment	3	3-0
<b>Third Semester</b>			
EARLYCHL 10307185	ECE: Child Care Best Practices	3	3-0
EARLYCHL 10307186	ECE: Child Care Administrator Capstone	3	3-0

# Early Childhood Education Diversity Credential Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

Courses	Credits/Units	Hrs/Week	
		LEC	LAB
<i>First 8 weeks of Fall Term</i>			
EARLYCHL 10307260 ECE: Building a Foundation for Understanding Diversity	3	3	0
<i>Second 8 weeks of Fall Term</i>			
EARLYCHL 10307261 ECE: Building on the Assets of Families and Cultures	3	3	0
<i>First 8 weeks of Spring Term</i>			
EARLYCHL 10307262 ECE: Culturally Appropriate Interactions and Guidance	3	3	0
<i>Second 8 weeks of Spring Term</i>			
<i>This is the capstone course to be taken as the last class in the sequence.</i>			
EARLYCHL 10307263 ECE: Authentic Curriculum that Connects with Children	3	3	0

# Early Childhood Education Infant & Toddler

## Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
EARLYCHL 10307151	ECE: Infant & Toddler Development	3	3-0
EARLYCHL 10307169	ECE: Infant Toddler Group Care	3	3-0
EARLYCHL 10307195	ECE: Family & Community Relations	3	3-0
EARLYCHL 10307115	ECE: Infant Toddler Capstone	3	3-0



# Early Childhood Education Preschool

A Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
EARLYCHL 10307108	ECE: Early Language and Literacy	3	1-0
EARLYCHL 10307167	ECE: Health, Safety, & Nutrition	3	3-0
EARLYCHL 10307174	ECE: Introductory Practicum	3	1-0
<b>Second Semester</b>			
EARLYCHL 10307110	ECE: Social Studies, Art, and Music	3	2-2
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307188	ECE: Guiding Child Behavior	3	3-1
EARLYCHL 10307175	ECE: Preschool Practicum	3	1-0

# Electrical Construction Apprentice

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ELEC 50413530	Tech Electrical 1	4	6-2
<b>Second Semester</b>			
ELEC 50413531	Tech Electrical 2	4	6-2
<b>Third Semester</b>			
ELEC 50413532	Tech Electrical 3	2	2-2
<b>Fourth Semester</b>			
ELEC 50413533	Tech Electrical 4	2	2-2
<b>Fifth Semester</b>			
ELEC 50413534	Tech Electrical 5	2	3-1
<b>Sixth Semester</b>			
ELEC 50413535	Tech Electrical 6	2	3-1
<b>Seventh Semester</b>			
ELEC 50413570	Tech Electrical 7	2	2-2
<b>Eighth Semester</b>			
ELEC 50413571	Tech Electrical 8	2	2-2

# Electrical Engineering Technology

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ELECT 10605108	Certified IPC Application Specialist (CIS) J-STD-001	1	0.5-1
ELECT 10605112	AC/DC Electronics 1	3	1-4
ELECT 10605113	Analog Circuit Techniques	3	1-4
ELECT 10605118	Digital Circuit Techniques	3	1-4
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Second Semester</b>			
ELECT 10605114	AC/DC Electronics 2	3	1-4
ELECT 10605115	Analog Circuit Principles	3	1-4
ELECT 10605119	Digital Circuit Principles	3	1-4
ELECT 10605173	Embedded Programming	3	1-4
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
<b>Third Semester</b>			
ELECT 10605143	Motors and Control Circuits	3	1-4
ELECT 10605176	Microcontrollers	3	2-0
ELECENG 10662112	AC/DC Electronics 3	3	1-4
SOC 10809197	Contemporary American Society	3	3-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
<b>Fourth Semester</b>			
ELECT 10605145	Programmable Logic Controls	3	2-0
ELECT 10605178	Networks, Interfacing and Programming	3	1-4
ELECENG 10662124	Advanced Circuit Analysis	3	1-4
PHYSICS 10806143	College Physics 1	3	2-2
ECON 10809195	Economics	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0

## Electrical Maintenance

### A Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
INSAFE 10449100	Safety for Industry	1	0-2
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804107	College Mathematics	3	2-2

## Electrician Apprentice (ABC) Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ELEC 50413580	Trade Electrical Semester 1	2	3-1
<b>Second Semester</b>			
ELEC 50413581	Trade Electrical Semester 2	2	3-1
<b>Third Semester</b>			
ELEC 50413582	Trade Electrical Semester 3	2	3-1
<b>Fourth Semester</b>			
ELEC 50413583	Trade Electrical Semester 4	2	3-1
<b>Fifth Semester</b>			
ELEC 50413584	Trade Electrical Semester 5	2	3-1
<b>Sixth Semester</b>			
ELEC 50413585	Trade Electrical Semester 6	2	3.4-0.6
<b>Seventh Semester</b>			
ELEC 50413586	Trade Electrical Semester 7	2	3-1
<b>Eighth Semester</b>			
ELEC 50413587	Trade Electrical Semester 8	2	3-1

# Electro-Mechanical Technology

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
INSAFE 10449100	Safety for Industry	1	0-2
MTLFAB 10457100	Metal Repair Techniques	2	0-4
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462105	Fluid Power 2 for Industry	2	0-4
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MATH 10804107	College Mathematics	3	2-2
<b>Second Semester</b>			
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462107	Mechanisms for Industry 2	1	0-2
IND MECH 10462331	DCAC 3 Theory	1	0-2
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
IND MECH 10462309	Maintenance Management	2	0-4
MECTEC 10606202	Computer-Assisted Design-2D	2	0.5-3
EMTEC 10620100	Introduction to PLCs	1	0-2
EMTEC 10620106	Robotics for Industrial Automation 1	1	0-2
EMTEC 10620112	Integration Introduction	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
<b>Third Semester</b>			
MECTEC 10606204	Computer-Assisted Design-3D	2	0-4
EMTEC 10620101	Programmable Logic Controllers 1	3	0-6
EMTEC 10620104	Interfacing Sensors with Computer Controls	3	0-6
EMTEC 10620108	Robotics for Industrial Automation 2	2	0-4
EMTEC 10620114	Integration of Mechanisms and Controls 1	4	0-8
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Fourth Semester</b>			
EMTEC 10620102	Programmable Logic Controllers 2	3	0-6
EMTEC 10620110	Vision for Robotics in Industrial Automation	2	0-4
EMTEC 10620116	Integration of Mechanisms and Controls 2	4	0-8
ENGLISH 10801197	Technical Reporting	3	3-0
ECON 10809195	Economics	3	3-0

## Electronic Service Technician

### A Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ELECT 10605107	Certified IPC Application Specialist (CIS) A-610	1	1-0
ELECT 10605108	Certified IPC Application Specialist (CIS) J-STD-001	1	0.5-1
ELECT 10605112	AC/DC Electronics 1	3	1-4
ELECT 10605113	Analog Circuit Techniques	3	1-4
ELECT 10605118	Digital Circuit Techniques	3	1-4
ELECT 10605172	Applied Electronic Math 2	2	1-2
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
ELECT 10605114	AC/DC Electronics 2	3	1-4
ELECT 10605115	Analog Circuit Principles	3	1-4
ELECT 10605119	Digital Circuit Principles	3	1-4
ELECT 10605123	Embedded Device Concepts	3	1-4

# Electronics

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ELECT 10605107	Certified IPC Application Specialist (CIS) A-610	1	1-0
ELECT 10605108	Certified IPC Application Specialist (CIS) J-STD-001	1	0.5-1
ELECT 10605112	AC/DC Electronics 1	3	1-4
ELECT 10605118	Digital Circuit Techniques	3	1-4
ELECT 10605123	Embedded Device Concepts	3	1-4
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
ELECT 10605113	Analog Circuit Techniques	3	1-4
ELECT 10605119	Digital Circuit Principles	3	1-4
ELECT 10605172	Applied Electronic Math 2	2	1-2
ENGLISH 10801197	Technical Reporting	3	3-0
ECON 10809195	Economics	3	3-0
<b>Third Semester</b>			
ELECT 10605114	AC/DC Electronics 2	3	1-4
ELECT 10605115	Analog Circuit Principles	3	1-4
ELECT 10605143	Motors and Control Circuits	3	1-4
ELECT 10605152	Digital Systems Analysis	3	1-4
PHYSICS 10806143	College Physics 1	3	2-2
<b>Fourth Semester</b>			
ELECT 10605116	Engineering Project Principles	3	2-0
ELECT 10605151	Instrumentation and Troubleshooting	3	1-4
ELECT 10605178	Networks, Interfacing and Programming	3	1-4
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Electives	3	
<i>Recommended Electives</i>			
ELECT 10605101	Electronics Internship Level 1	3	0-0
ELECT 10605102	Electronics Internship Level 2	3	0-0
ELECT 10605136	Biomedical Electronics	3	2-0
ELECT 10605160	Virtual Reality	3	3-0
ELECT 10605173	Embedded Programming	3	1-4
ELECT 10605176	Microcontrollers	3	2-0
GENENG 10605252	Introduction to Computer Engineering	3	1-4
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4



## Electronics Soldering Assembler

A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
ELECT 10605107	Certified IPC Application Specialist (CIS) A-610	1	1-0
ELECT 10605108	Certified IPC Application Specialist (CIS) J-STD-001	1	0.5-1
ELECT 10605112	AC/DC Electronics 1	3	1-4
ELECT 10605118	Digital Circuit Techniques	3	1-4

# Emergency Medical Technician

## A Less Than One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

Courses		Credits/Units	Hrs/Week
			LEC-LAB
EMS 10531102	Emergency Medical Technician 1	2	1-2
EMS 10531103	Emergency Medical Technician 2	3	1-0

## Entrepreneurship Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
SMLBUS 10145102	Small Business Development	3	3-0
SMLBUS 10145105	Operations Management	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
ADMINPRF 10106164	Customer Contact Skills	2	2-0
SMLBUS 10145108	Field Experience	2	1-0

**Ethnic Studies**  
 Certificate

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

Required Course		Credits/Units	Hrs/Week
			LEC-LAB
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
<b>Additional Requirement</b>			
<i>Complete nine credits from the listed courses</i>			
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
SOCSOI 20809908	Honors-Ethnic Studies (3cr)	3	0-0

# Event Management

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ACCTG 10101106	Accounting Fundamentals	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
EVTMGT 10109111	Registration/Housing Logistics	2	2-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
<b>Second Semester</b>			
MKTG 10104114	Social Media Marketing	3	3-0
EVTMGT 10109104	Meeting Design	3	3-0
EVTMGT 10109108	Mtgs Industry Budget/Finance	2	2-0
EVTMGT 10109110	Meeting Coordination	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Third Semester</b>			
MKTG 10104102	Marketing Principles	3	3-0
EVTMGT 10109109	Special Event Management	3	3-0
EVTMGT 10109116	Fundamentals of Green Meetings and Events	2	2-0
EVTMGT 10109119	Event Professional Best Practices	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
<b>Fourth Semester</b>			
EVTMGT 10109112	Exhibition Management	3	3-0
EVTMGT 10109113	Risk Management, Negotiations, and Legal Issues	3	3-0
EVTMGT 10109114	Meeting/Event Mgmt Internship	2	0-0
EVTMGT 10109117	Partnership Development	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Elective	3	
<b>Recommended Electives</b>			
ADMINPRF 10106100	Mindset for Success	3	3-0
SMLBUS 10145131	Mastering Mindfulness: The Power of Living in the Present	1	1-0
SMLBUS 10145132	Mastering Mindfulness: Pathway to Personal Development	1	1-0
SMLBUS 10145133	Mastering Mindfulness: Strength and Self-Reflection	1	1-0
SUPDEV 10196188	Project Management for Supervisors	3	3-0
SMLBUS 10145120	Global Entrepreneurship (3 credits)	3	1-1

# Event Management for the Business Professional Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
EVTMGT 10109110	Meeting Coordination	3	3-0
EVTMGT 10109111	Registration/Housing Logistics	2	2-0

## Facilities Management Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
BUSADM 10102135	Project Management - Fundamentals	3	3-0
INSAFE 10449100	Safety for Industry	1	0-2
HVAC 10601370	Building Automations 1	3	1-4
IND MECH 10462309	Maintenance Management	2	0-4

# Fashion Marketing

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
COMPSOFT 10103143	PowerPoint	1	0.27-1.5
MKTG 10104102	Marketing Principles	3	3-0
FSHNMKTG 10104122	Adobe Illustrator for Fashion	3	3-0
FSHNMKTG 10104124	Retail Management	3	3-0
FSHNMKTG 10104195	Fashion Analysis	2	2-0
FSHNMKTG 10104197	Apparel Marketing	3	3-0
<b>Second Semester</b>			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
MKTG 10104104	Selling Principles	3	3-0
FSHNMKTG 10104118	Store Operations	3	2-2
FSHNMKTG 10104194	Visual Merchandising	3	2-2
FSHNMKTG 10104196	Textiles	2	1.5-3
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
MATH 10804123	Math with Business Applications	3	3-0
<b>Third Semester (summer)</b>			
FSHNMKTG 10104157	Fashion Internship	2	0.5-0
<b>Fourth Semester</b>			
MKTG 10104103	Marketing Research	3	3-0
MKTG 10104113	Leadership Ethics in the Digital Age	3	3-0
FSHNMKTG 10104123	Merchandise Plan/Control	3	3-0
FSHNMKTG 10104132	Fashion Show	1	0-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Fifth Semester</b>			
MKTG 10104112	Marketing Design Strategies	3	3-0
FSHNMKTG 10104120	Adobe Photoshop Fashion Design	3	3-0
FSHNMKTG 10104182	Portfolio Presentation	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ECON 10809195	Economics	3	3-0
<b>Related Courses</b>			
MKTG 10104114	Social Media Marketing	3	3-0
FSHNMKTG 10104127	Technical Design Specifications for Fashion	3	2-2
FSHNMKTG 10104186	History of Costume	3	3-0
FSHNMKTG 10104198	Fashion CAD Lab	1	1-0



# Finance

## An Associate in Applied Science Degree

### Curriculum

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		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
COMPSOFT 10103145	Access	1	0.27-1.5
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
FINANCE 10114130	Personal Finance	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
<b>Second Semester</b>			
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101123	Tax 1	4	4-0
ADMINPRF 10106190	Professional Development	1	0.5-1
FINANCE 10114128	Financial Institutions	3	3-0
ECON 10809195	Economics	3	3-0
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
<b>Third Semester</b>			
ACCTG 10101118	Management Accounting	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
BUSADM 10102160	Business Law 1	3	3-0
FINANCE 10114126	Corporate Finance	3	3-0
INSMGT 10162126	Introduction to Loss Investigation (AIC 33)	3	3-0
<b>Fourth Semester</b>			
BUSADM 10102143	Management Techniques	3	3-0
FINANCE 10114127	Financial Analysis	3	3-0
FINANCE 10114140	Investments	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Elective or Concentration (see below)	3	
<b>Concentration Areas</b>			
<i>Risk Management &amp; Insurance Concentration (select 3 credits)</i>			
INSMGT 10162125	Intro to Business Insurance Contracts (AAI 82)	3	3-0
INSMGT 10162126	Introduction to Loss Investigation (AIC 33)	3	3-0
INSMGT 10162133	Managing Business Risks	3	3-0
INSMGT 10162135	Fraud Examination & Detection	3	3-0
<i>Accounting Concentration (select 3 credits)</i>			
ACCTG 10101138	Accounting and Payroll Systems	3	2-2
<i>Business Management Concentration (select 3 credits)</i>			
BUSADM 10102135	Project Management - Fundamentals	3	3-0
<i>Small Business Concentration (select 3 credits)</i>			
SMLBUS 10145102	Small Business Development	3	3-0

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MKTG 10104102	Marketing Principles	3	3-0
<b>Human Resources Concentration (select 3 credits)</b>			
HRMGT 10116145	Introduction to Human Resources	3	3-0
HRMGT 10116147	Wage, Salary & Benefits Admin	3	3-0
<b>Other Recommended Electives (select 3 credits)</b>			
INSMGT 10162140	Risk Management and Insurance Internship	2	0-0
ACCTG 10101140	Accounting/Business Internship	3	0-0
ADMINPRF 10106100	Mindset for Success	3	3-0
INSMGT 10162131	Intro to Life & Health Insurance	3	3-0
MKTG 10104104	Selling Principles	3	3-0

## Financial Assistant

A Technical Diploma

### Curriculum

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		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
FINANCE 10114130	Personal Finance	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
<b>Second Semester</b>			
COMPSOFT 10103145	Access	1	0.27-1.5
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101123	Tax 1	4	4-0
ADMINPRF 10106190	Professional Development	1	0.5-1
FINANCE 10114128	Financial Institutions	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0

# Fire Protection Technician

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
FIRET 10503143	Building Construction	3	3-0
FIRET 10503144	OSHA for the Fire Service	3	3-0
FIRET 10503191	Principles of Emergency Services	2	2-0
EMS 10531102	Emergency Medical Technician 1	2	1-2
EMS 10531103	Emergency Medical Technician 2	3	1-0
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
FIRET 10503100	Fire Recruit Academy	5	2-0
FIRET 10503154	Hazardous Materials Chemistry	2	2-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
MATH 10804134	Mathematical Reasoning	3	2-2
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Third Semester</b>			
FIRET 10503151	Fire Prevention	4	4-0
FIRET 10503195	Fire Behavior & Combustion	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
SOC 10809197	Contemporary Amer Society	3	3-0
	Elective: See recommended electives below.		
<b>Fourth Semester</b>			
FIRET 10503156	Strategies, Tactics & Inc Mgmt	4	4-0
FIRET 10503157	Fire Investigation	3	3-0
FIRET 10503192	Principles Emergency Services/Survival	3	3-0
FIRET 10503193	Fire Protection Systems	3	3-0
FIRET 10503194	Fire Protection Hydraulics	3	3-0
<b>Recommended Electives</b>			
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807267	Health & Fitness for Life	1	0-2

## Fire Service Certification

### A Less Than One Year Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
FIRET 10503100	Fire Recruit Academy	5	2-0
EMS 10531102	Emergency Medical Technician 1	2	1-2
EMS 10531103	Emergency Medical Technician 2	3	1-0

# Fitness and Recreation Management

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
MKTG 10104102	Marketing Principles	3	3-0
FIT REC 10109103	Leisure, Quality of Life and Well-being	3	3-0
FIT REC 10109162	Introduction to Fitness and Recreation	2	2-0
FIT REC 10109196	Principles of Outdoor Pursuits	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
FIT REC 10109106	Fitness and Recreation Programming	3	3-0
FIT REC 10109149	Risk Management in Fitness and Recreation	2	2-0
FIT REC 10109171	Internship Development and Community Partnerships	2	2-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
	Emphasis Course (see below)	3	
<b>Third Semester (Summer)</b>			
FIT REC 10109175	Fitness and Recreation Internship Practicum	2	0-0
<b>Fourth Semester</b>			
FIT REC 10109135	Leadership Strategies in Fitness and Recreation	3	3-0
FIT REC 10109163	Trends & Topics in Fitness and Recreation	3	3-0
FIT REC 10109195	Industry Budget and Financial Management	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Emphasis Course (see below)	3	
<b>Fifth Semester</b>			
FIT REC 10109115	Fitness and Recreation Administration & Management	3	3-0
FIT REC 10109155	Facility Operations and Maintenance	3	3-0
FIT REC 10109160	Diversity, Equity, & Inclusion in Fitness & Recreation	3	3-0
FIT REC 10109190	Fitness and Recreation Seminar	1	1-0
ECON 10809195	Economics	3	3-0
	Emphasis Course (see below)	3	
<b>Emphasis Program Courses</b>			
FIT REC 10109159	Health Coaching and Wellness Promotion	3	3-0
FIT REC 10109173	Group Fitness Development	3	2-2
FIT REC 10109176	Personal Trainer Development	3	2.5-1
FIT REC 10109197	Outdoor Experiential Facilitation	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
FIT REC 10109297	Exercise Science for Fitness Professionals	3	3-0

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FIT REC 10109299	Precision Nutrition	3	3-0
FIT REC 10109189	Foundations of Worksite Wellness	3	3-0

## Fitness and Wellness Specialist

A Less Than One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
FIT REC 10109173	Group Fitness Development	3	2-2
FIT REC 10109195	Industry Budget and Financial Management	3	3-0
FIT REC 10109297	Exercise Science for Fitness Professionals	3	3-0
FIT REC 10109298	Introduction to Fitness and Wellness	2	2-0
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
<b>Second Semester</b>			
FIT REC 10109159	Health Coaching and Wellness Promotion	3	3-0
FIT REC 10109176	Personal Trainer Development	3	2.5-1
FIT REC 10109299	Precision Nutrition	3	3-0
FIT REC 10109300	Fitness and Wellness Professional Development	1	1-0
FIT REC 10109301	Fitness and Wellness Practical Lab	1	0-2



# French Language Proficiency Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

			Hrs/Week
			Credits/Units LEC-LAB
<b>Language Requirement</b>			
<i>Completion of two courses in French (French 3 or higher level) is required. At least 3 credits must be enrolled in at Madison College.</i>			
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
<b>Practicum Requirement</b>			
<i>Completion of both practicum courses is required.</i>			
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
<b>Additional Course Requirement</b>			
<i>Completion of at least one of the listed courses is required.</i>			
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ART 20815210	Art History: Renaissance to Modern	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801223	Peace, Conflict, and Literature: The Arts of the Contact Zone	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
FILM 20810254	History Of World Cinema	3	2-2
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
JOURNAL 20801252	World Issues Journalism	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
MUSIC 20805207	World Music	3	3-0
PHILOS 20809263	East/West World View	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809245	Latin American Politics	3	3-0
POLISCI 20809246	African Politics	3	3-0

## Madison Area Technical College

SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
	Honors courses may be available. See the certificate advisor for details.	2	

**Oral Competency Assessment Requirement**  
*Completion of the World Language Oral Assessment with a minimum score of 6 within the last three years is required.*

## Gas Metal Arc Welding (GMAW)

A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
INSAFE 10449100	Safety for Industry	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
WELD 31442320	Welding Occupational Development	1	2-0
WELD 31442323	Basic Gas Metal Arc Welding (GMAW/MIG)	2	2-2
MATH 31804379	Vocational Math 1	1	2-0

# Gender and Women's Studies Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
<b>Additional Course List</b>			
<i>Students must complete a minimum of 12 credits from the following:</i>			
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOC 20809277	Couple Relationships	1	1-0
ASOC 2081521	Students with a GPA of 3.5 or higher may choose to complete an honors project in Gender and Women's Studies for up to 3 credits in place of one of the courses on this list.		3-0

# Graphic Design

## An Associate in Applied Arts Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
GRDSGN 10201102	Design Fundamentals	3	0-6
GRDSGN 10201103	Drawing Fundamentals	3	0-6
GRDSGN 10201136	Concept Development	2	0-4
GRDSGN 10201137	Survey of Design	1	1-0
GRDSGN 10201181	Introduction to Computer Graphics	3	0-6
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
<b>Second Semester</b>			
GRDSGN 10201112	Color	2	0-4
GRDSGN 10201151	Typographic Design	3	0-6
GRDSGN 10201152	Applied Drawing	2	0-4
GRDSGN 10201177	Web Page Design	3	0-6
GRDSGN 10201182	Applied Computer Graphics	3	0-6
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Third Semester</b>			
GRDSGN 10201106	Illustration	3	0-6
GRDSGN 10201121	Graphic Design	3	0-6
GRDSGN 10201128	Print & Digital Production	3	0-6
PHOTO 10203130	Introduction to Photography and Video	2	0-4
VICOM 10206129	Motion Design	2	0-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Fourth Semester</b>			
GRDSGN 10201153	Integrated Design	2	0-4
GRDSGN 10201154	Design Project Management	3	0-6
GRDSGN 10201162	Portfolio Preparation	2	0-4
GRDSGN 10201184	Advanced Design & Layout	2	0-4
SOC 10809197	Contemporary American Society	3	3-0
	Electives	6	
<b>Recommended Electives</b>			
GRDSGN 10201142	Introduction to Letterpress Printing	1	0-2
GRDSGN 10201144	Principles of Letterpress: Design and Printing	3	0-6
GRDSGN 10201145	Introduction to Screen Printing	2	0-4
GRDSGN 10201146	Advanced Screen Printing Workshop	2	0-4
GRDSGN 10201147	Advanced Letterpress Workshop	2	0-4
GRDSGN 10201148	Letterpress Independent Study	1	0-2
GRDSGN 10201156	Programming for Designers	3	0-6
GRDSGN 10201157	Social Media Concepting	3	0-6

## Madison Area Technical College

GRDSGN 10201158	Interactive Design Lab	2	0-4
GRDSGN 10201163	UX Design	3	0-6
GRDSGN 10201164	Advanced Portfolio	1	0-2
GRDSGN 10201165	Design Studio	2	0-4
GRDSGN 10201169	Business of Graphic Design & Illustration	2	2-0
GRDSGN 10201178	Applied UI Design	3	0-6
GRDSGN 10201183	Electronic Illustration	2	0-4
GRDSGN 10201195	Advanced Web Page Design	3	0-6
GRDSGN 10201198	Social Media/Web Design Strategies	3	3-0
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0

## HVAC Apprentice (ABC) Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
HVAC 50401590	Trade HVAC Semester 1	2	3-1
<b>Second Semester</b>			
HVAC 50401591	Trade HVAC Semester 2	2	3-1
<b>Third Semester</b>			
HVAC 50401592	Trade HVAC Semester 3	2	3-1
<b>Fourth Semester</b>			
HVAC 50401593	Trade HVAC Semester 4	2	3-1
<b>Fifth Semester</b>			
HVAC 50401594	Trade HVAC Semester 5	2	3-1
<b>Sixth Semester</b>			
HVAC 50401595	Trade HVAC Semester 6	2	3-1
<b>Seventh Semester</b>			
HVAC 50401596	Trade HVAC Semester 7	2	3-1
<b>Eighth Semester</b>			
HVAC 50401597	Trade HVAC Semester 8	2	3-1

## Healthcare Management Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
BUSADM 10102143	Management Techniques	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
BUSADM 10102134	Introduction to Business	3	3-0
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
<i>In addition to being required for this certificate, the following 2 courses may also be used to fulfill Medical Admin Emphasis Track requirements for the Business Management Program:</i>			
MEDADMIN 10160178	Medical Language for the Business Professional 1	3	2-2
MEDADMIN 10160165	Medical Administrative Procedures	3	1-4



# Healthcare Receptionist

## A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ADMINPRF 10106100	Mindset for Success	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106139	Keyboard Skillbuilding	1	0.27-1.5
MEDADMIN 10160178	Medical Language for the Business Professional 1	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
COMPSOFT 10103165	Outlook	1	0.27-1.5
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	2	2-0
MEDADMIN 10160165	Medical Administrative Procedures	3	1-4
MEDADMIN 10160179	Medical Language for the Business Professional 2	3	2-2

## Hospitality Assistant

A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
HOSPT 10109101	Exploring Hospitality	3	3-0
BUSADM 10102114	Business Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0

# Hospitality Certificate for the Business Professional Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>COURSES</b>			
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	2	2-0
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
HOSPT 10109101	Exploring Hospitality	3	3-0
HOSPT 10109125	Hospitality Leadership	3	3-0
<b>Choose one of the following:</b>			
SMLBUS 10145131	Mastering Mindfulness: The Power of Living in the Present	1	1-0
SMLBUS 10145132	Mastering Mindfulness: Pathway to Personal Development	1	1-0
SMLBUS 10145133	Mastering Mindfulness: Strength and Self-Reflection	1	1-0

# Hospitality Management

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
BUSADM 10102114	Business Communication	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
HOSPT 10109101	Exploring Hospitality	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
<b>Second Semester</b>			
ACCTG 10101106	Accounting Fundamentals	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
HOSPT 10109136	Hospitality Law	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Third Semester (Summer)</b>			
HOSPT 10109157	Hospitality Internship	2	0-0
<b>Fourth Semester</b>			
MKTG 10104114	Social Media Marketing	3	3-0
EVTMGT 10109119	Event Professional Best Practices	3	3-0
HOSPT 10109131	Rooms Division Operation	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Fifth Semester</b>			
HOSPT 10109125	Hospitality Leadership	3	3-0
HOSPT 10109134	Revenue Management	3	3-0
ADMINPRF 10106164	Customer Contact Skills	2	2-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0

## Hospitality Specialist

A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
BUSADM 10102114	Business Communication	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
HOSPT 10109101	Exploring Hospitality	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
ACCTG 10101106	Accounting Fundamentals	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104114	Social Media Marketing	3	3-0
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
HOSPT 10109131	Rooms Division Operation	3	3-0
HOSPT 10109136	Hospitality Law	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0

# Human Resource Management

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
BUSADM 10102134	Introduction to Business	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Second Semester</b>			
HRMGT 10116147	Wage, Salary & Benefits Admin	3	3-0
HRMGT 10116149	Effective Staffing	3	3-0
HRMGT 10116152	Organizational Training and Development	3	3-0
MATH 10804144	Math of Finance	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
<b>Third Semester</b>			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
BUSADM 10102143	Management Techniques	3	3-0
HRMGT 10116148	Employee Relations	3	3-0
HRMGT 10116168	Employment Law	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Fourth Semester</b>			
ACCTG 10101154	Payroll Accounting	1	0.5-1
BUSADM 10102132	Strategic Leadership	3	3-0
BUSADM 10102135	Project Management - Fundamentals	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
ECON 10809195	Economics	3	3-0
HRMGT 10116169	Human Resources Capstone	1	1-0

# Human Resources

## Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Hrs/Week	
		Credits/Units	LEC-LAB
<b>Courses</b>			
<i>Select a minimum of 12 credits from the following</i>			
BUSADM 10102143	Management Techniques	3	3-0
ACCTG 10101154	Payroll Accounting	1	0.5-1
HRMGT 10116145	Introduction to Human Resources	3	3-0
HRMGT 10116147	Wage, Salary & Benefits Admin	3	3-0
HRMGT 10116148	Employee Relations	3	3-0
HRMGT 10116149	Effective Staffing	3	3-0
HRMGT 10116152	Organizational Training and Development	3	3-0
HRMGT 10116168	Employment Law	3	3-0
HRMGT 10116169	Human Resources Capstone	1	1-0

# Human Services Associate

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
HUMSVC 10520105	Introduction to Human Services	3	3-0
HUMSVC 10520106	Orientation to Human Services Populations	3	3-0
HUMSVC 10520117	Interviewing	3	3-0
HUMSVC 10520135	Issues in Alcohol and Other Drug Abuse	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Second Semester</b>			
HUMSVC 10520116	Group Work Skills	3	3-0
HUMSVC 10520130	Social Change Skills	3	3-0
HUMSVC 10520141	Introduction to Community Mental Health	3	3-0
HUMSVC 10520142	Psychopharmacology	3	3-0
HUMSVC 10520136	Counseling Alcoholics and Other Drug Abusers	3	3-0
<b>Third Semester</b>			
HUMSVC 10520157	Human Services Counseling Skills	3	3-0
HUMSVC 10520188	Human Services Experience Conference 1	3	3-0
HUMSVC 10520190	Human Services Agency Internship 1	3	0-0
ENGLISH 10801197	Technical Reporting	3	3-0
MATH 10804134	Mathematical Reasoning	3	2-2
SOC 10809172	Introduction to Diversity Studies	3	3-0
<b>Fourth Semester</b>			
HUMSVC 10520120	Community Service Agencies	3	3-0
HUMSVC 10520191	Human Services Agency Internship 2	3	0-0
HUMSVC 10520189	Human Services Experience Conference 2	3	3-0
SOC 10809197	Contemporary American Society	3	3-0



# IT-Big Data Analytics

## Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ITDATA 10156128	Big Data Fundamentals	3	2-2
<b>Second Semester</b>			
ITDATA 10156129	Advanced Big Data Topics	3	2-2

# IT-Cisco Certified Networking Associate (CCNA) Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITNET 10150122	Cisco Networking 2	3	2-2
ITNET 10150123	Cisco Networking 3	3	2-2

# IT-Cloud DevOps Specialist

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITTECSUP 10154184	Enterprise Client	3	2-2
ITDATA 10156124	Introduction to Databases	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Second Semester</b>			
ITPROG 10152109	Python Scripting	3	2-2
ITTECSUP 10154171	Windows Server 1	3	2-2
ITTECSUP 10154190	Linux Server 1	3	2-2
ITCLOUD 10157101	Introduction to Cloud Computing	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Third Semester</b>			
IT 10107175	Job Search Preparation	1	0.5-1
ITCLOUD 10157123	Advanced Scripting for Cloud	3	2-2
ITCLOUD 10157135	VMware Certified Professional (VCP)	3	2-2
ITCLOUD 10157141	AWS Administration	3	2-2
MATH 10804144	Math of Finance	3	3-0
	Recommended Elective or General Elective	3	
<b>Fourth Semester</b>			
ITCLOUD 10157130	Azure Administration	3	2-2
ITCLOUD 10157155	DevOps	3	2-2
ITCLOUD 10157196	Cloud Internship	3	0-0
SOC 10809197	Contemporary American Society	3	3-0
	Recommended Elective or General Elective	3	
<b>List of Recommended Electives</b>			
ITPROG 10152120	Website Development	3	2-2
ITTECSUP 10154172	Windows Server 2	3	2-2
ITSECUR 10151114	Linux Server 2 (Security)	3	2-2
ITTECSUP 10154118	Infrastructure Automation	3	2-2

# IT-Cybersecurity Specialist

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITTECSUP 10154184	Enterprise Client	3	2-2
ITTECSUP 10154190	Linux Server 1	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Second Semester</b>			
ITNET 10150194	Firewall/VPN Technologies	3	2-2
ITSECUR 10151114	Linux Server 2 (Security)	3	2-2
ITPROG 10152109	Python Scripting	3	2-2
ITTECSUP 10154171	Windows Server 1	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Third Semester</b>			
IT 10107175	Job Search Preparation	1	0.5-1
ITSECUR 10151137	Incident Response	3	2-2
ITSECUR 10151142	Web Application Security	3	2-2
ITCLOUD 10157101	Introduction to Cloud Computing	3	2-2
ITCLOUD 10157135	VMware Certified Professional (VCP)	3	2-2
MATH 10804144	Math of Finance	3	3-0
<b>Fourth Semester</b>			
ITSECUR 10151133	Network Forensics and Threat Hunting	3	2-2
ITSECUR 10151164	Penetration Testing	3	2-2
ITSECUR 10151168	Security Design	3	2-2
ITSECUR 10151197	Cybersecurity Internship	3	0-0
SOC 10809197	Contemporary American Society	3	3-0

# IT-Cybersecurity in an Industrial Control Environment (IoT)

Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ITSECUR 10151127	Securing Industrial IoT	3	2-2
<b>Second Semester</b>			
ITSECUR 10151128	Advanced Securing Industrial IoT	3	2-2

# IT-Desktop Support Technician

## A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
COMPSOFT 10103136	Word Intermediate	1	0.27-1.5
IT 10107111	Exploration of Information Technology	1	0.5-1
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITTECSUP 10154184	Enterprise Client	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
COMPSOFT 10103139	Excel Intermediate	1	0.27-1.5
ITTECSUP 10154104	A+ Hardware Essentials	3	2-2
ITTECSUP 10154122	IT Service Concepts	3	2-2
ITTECSUP 10154171	Windows Server 1	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0

# IT-Front End Developer

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITPROG 10152119	Introduction to Programming with JavaScript	3	2-2
ITPROG 10152120	Website Development	3	2-2
ITDATA 10156124	Introduction to Databases	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
ITPROG 10152110	Cloud for Developers	3	2-2
ITPROG 10152121	Advanced CSS	3	2-2
ITPROG 10152130	UI/UX for Developers	3	2-2
ITPROG 10152168	Advanced Javascript	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Third Semester</b>			
IT 10107175	Job Search Preparation	1	0.5-1
ITPROG 10152131	Agile Practices	3	2-2
ITPROG 10152158	JS Frameworks	3	2-2
SOC 10809197	Contemporary American Society	3	3-0
MATH 10804144	Math of Finance	3	3-0
	Elective	3	
<b>Fourth Semester</b>			
ITPROG 10152108	Advanced Cloud for Developers	3	2-2
ITPROG 10152114	Front End Development Internship	3	0-0
ITPROG 10152182	Advanced Front End Development	3	2-2
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Elective	3	
<b>Recommended Electives</b>			
ITPROG 10152103	C# Web Development Using ASP.NET	3	2-2
ITPROG 10152166	PHP Web Development with MySQL	3	2-2
ITDATA 10156125	SQL Database Programming	3	2-2
ITDATA 10156128	Big Data Fundamentals	3	2-2

## IT-Java Professional Developer Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
ITPROG 10152111	Java Programming	3	2-2
ITPROG 10152112	Advanced Java Programming	3	2-2
ITPROG 10152113	Enterprise Java Programming	3	2-2



# IT-Network Specialist

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITTECSUP 10154184	Enterprise Client	3	2-2
ITTECSUP 10154190	Linux Server 1	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Second Semester</b>			
ITPROG 10152109	Python Scripting	3	2-2
ITNET 10150122	Cisco Networking 2	3	2-2
ITTECSUP 10154171	Windows Server 1	3	2-2
ITNET 10150194	Firewall/VPN Technologies	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Third Semester</b>			
IT 10107175	Job Search Preparation	1	0.5-1
ITNET 10150123	Cisco Networking 3	3	2-2
ITNET 10150150	VoIP Convergence Fundamentals	3	2-2
ITNET 10150190	Wireless Topics	3	2-2
MATH 10804144	Math of Finance	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
<b>Fourth Semester</b>			
ITNET 10150151	Advanced Networking Topics	3	2-2
ITNET 10150163	Software Defined Networking	3	2-2
ITNET 10150195	Networking Internship	3	0-0
	Elective	3	
<b>Recommended Electives</b>			
ITSECUR 10151114	Linux Server 2 (Security)	3	2-2
ITCLOUD 10157135	VMware Certified Professional (VCP)	3	2-2
ITCLOUD 10157101	Introduction to Cloud Computing	3	2-2

# IT-PHP Professional Web Developer Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Courses</b>			
ITPROG 10152166	PHP Web Development with MySQL	3	2-2
ITPROG 10152167	Advanced PHP and MySQL Web Development	3	2-2

## IT-Service Center Technician

Career Pathway Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Required Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
ITTECSUP 10154184	Enterprise Client	3	2-2
ITTECSUP 10154104	A+ Hardware Essentials	3	2-2

## IT-Service Desk Technician

### Apprenticeship Completion

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ITTECSUP 10154122	IT Service Concepts	3	2-2
<b>Second Semester</b>			
ITTECSUP 10154104	A+ Hardware Essentials	3	2-2
ITTECSUP 10154184	Enterprise Client	3	2-2

# IT-Software Developer Apprentice

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ITPROG 10152119	Introduction to Programming with JavaScript	3	2-2
ITPROG 10152120	Website Development	3	2-2
<b>Second Semester</b>			
ITPROG 10152111	Java Programming	3	2-2
<b>Third Semester</b>			
ITPROG 10152112	Advanced Java Programming	3	2-2
<b>Fourth Semester</b>			
ITPROG 10152131	Agile Practices	3	2-2

# IT-Software Quality Specialist

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITPROG 10152119	Introduction to Programming with JavaScript	3	2-2
ITPROG 10152120	Website Development	3	2-2
ITPROG 10152138	Software Quality Scripting	3	2-2
ITPROG 10152200	Software Quality Fundamentals	4	2-4
<b>Second Semester</b>			
ITPROG 10152130	UI/UX for Developers	3	2-2
ITPROG 10152201	Software Quality Automation	4	2-4
ITPROG 10152202	Software Quality Internship	3	0-0
ITDATA 10156124	Introduction to Databases	3	2-2
PSYCH 10809199	Psychology Of Human Relations	3	3-0

# IT-Systems Administration Specialist

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
COMPSOFT 10103136	Word Intermediate	1	0.27-1.5
IT 10107111	Exploration of Information Technology	1	0.5-1
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITTECSUP 10154184	Enterprise Client	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Second Semester</b>			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
COMPSOFT 10103139	Excel Intermediate	1	0.27-1.5
ITPROG 10152109	Python Scripting	3	2-2
ITTECSUP 10154104	A+ Hardware Essentials	3	2-2
ITTECSUP 10154122	IT Service Concepts	3	2-2
ITTECSUP 10154171	Windows Server 1	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Third Semester</b>			
IT 10107175	Job Search Preparation	1	0.5-1
ITTECSUP 10154118	Infrastructure Automation	3	2-2
ITTECSUP 10154147	Supporting Emerging Technologies	3	2-2
ITTECSUP 10154190	Linux Server 1	3	2-2
ITCLOUD 10157101	Introduction to Cloud Computing	3	2-2
MATH 10804144	Math of Finance	3	3-0
<b>Fourth Semester</b>			
ITTECSUP 10154172	Windows Server 2	3	2-2
ITTECSUP 10154198	Systems Administration Internship	3	0-0
ITCLOUD 10157135	VMware Certified Professional (VCP)	3	2-2
SOC 10809197	Contemporary American Society Elective	3 3	3-0
<b>Recommended Electives</b>			
<i>Electives must be associate degree (10-level) or college transfer (20-level) courses.</i>			
ITPROG 10152120	Website Development	3	2-2
ITSECUR 10151114	Linux Server 2 (Security)	3	2-2
ITDATA 10156124	Introduction to Databases	3	2-2
ITCLOUD 10157130	Azure Administration	3	2-2

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ITCLOUD 10157141	AWS Administration	3	2-2
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# IT-VMware Certified Professional Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

Course	Credits/Units	Hrs/Week	
		LEC	LAB
ITCLOUD 10157135	3	2	2
VMware Certified Professional (VCP)			

# IT-Web Software Developer

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITPROG 10152119	Introduction to Programming with JavaScript	3	2-2
ITPROG 10152120	Website Development	3	2-2
ITDATA 10156124	Introduction to Databases	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Second Semester</b>			
ITPROG 10152111	Java Programming	3	2-2
ITDATA 10156125	SQL Database Programming	3	2-2
ITPROG 10152130	UI/UX for Developers	3	2-2
ITPROG 10152166	PHP Web Development with MySQL	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Third Semester</b>			
IT 10107175	Job Search Preparation	1	0.5-1
ITPROG 10152112	Advanced Java Programming	3	2-2
ITPROG 10152121	Advanced CSS	3	2-2
ITPROG 10152131	Agile Practices	3	2-2
MATH 10804144	Math of Finance	3	3-0
	Elective	3	
<b>Fourth Semester</b>			
ITPROG 10152113	Enterprise Java Programming	3	2-2
ITPROG 10152132	Web Software Developer Internship	3	0-0
ITPROG 10152168	Advanced Javascript	3	2-2
SOC 10809197	Contemporary American Society	3	3-0
	Elective	3	
<b>Recommended Electives</b>			
ITPROG 10152110	Cloud for Developers	3	2-2
ITPROG 10152103	C# Web Development Using ASP.NET	3	2-2
ITPROG 10152158	JS Frameworks	3	2-2
ITPROG 10152167	Advanced PHP and MySQL Web Development	3	2-2
ITDATA 10156128	Big Data Fundamentals	3	2-2
ITDATA 10156129	Advanced Big Data Topics	3	2-2

## Individualized Technical Studies

An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

	Credits/Units	Hrs/Week LEC-LAB
<b>General Education Core (21-30 credits)</b>		
<i>Select one from each content group:</i>		
Communications	6	
Social Science	3	
Behavior Science	3	
Math/Science	3	
Additional General Studies Courses	6	

**Individualized Technical Studies Courses (36-49 credits)**

*Students are required to complete a minimum of 36 credit hours relevant to career goals. A minimum of 20 of these credits must be focused in one discipline.*

**Electives (0-6 credits)**

*Students may complete up to six credit hours of electives relevant to career goals. You may utilize your electives to take additional technical courses.*

# Industrial Automation - Post Baccalaureate Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

**Hrs/Week**  
**Credits/Units LEC-LAB**

**Courses are listed in numeric order. Please review each course for pre-requisites and term offerings to develop your plan of completion. (For further assistance, consult the program director or academic advisor.)**

IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
EMTEC 10620101	Programmable Logic Controllers 1	3	0-6
EMTEC 10620102	Programmable Logic Controllers 2	3	0-6
EMTEC 10620104	Interfacing Sensors with Computer Controls	3	0-6
EMTEC 10620106	Robotics for Industrial Automation 1	1	0-2
EMTEC 10620108	Robotics for Industrial Automation 2	2	0-4

# Industrial Electrician Apprenticeship Completion

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ELEC-IND 50413750	DC Electricity for Industrial Electricians	2	2-2
ELEC-IND 50413751	AC Electricity for Industrial Electricians	2	2-2
<b>Second Semester</b>			
ELEC-IND 50413752	Codes for Industrial Electricians 1: Introduction to the NEC	0	1-0
ELEC-IND 50413753	Codes for Industrial Electricians 2: OCPD and Electrical Device Installations	0	1-0
ELEC-IND 50413754	Codes for Industrial Electricians 3: Article 250 Part A	0	1-0
ELEC-IND 50413755	Codes for Industrial Electricians 4: Article 250 Part B	0	1-0
ELEC-IND 50413760	Industrial Electrician Transformers	1	1-1
ELEC-IND 50413761	Industrial Electrician Motors & Generators	1	1-1
<b>Third Semester</b>			
ELEC-IND 50413762	Industrial Electrician Motor Controls 1	1	1-1
ELEC-IND 50413756	Codes for Industrial Electricians 5: Article 300, Cords/Cables, and Hazardous Installations	0	1-0
ELEC-IND 50413773	Safety & Print Reading for Industrial Electricians	0	1-0
<b>Fourth Semester</b>			
ELEC-IND 50413763	Industrial Electrician Motor Controls 2	1	1-1
ELEC-IND 50413764	Industrial Electrician Motor Controls 3	1	2-0
<b>Fifth Semester</b>			
ELEC-IND 50413765	Power Systems & Variable Speed Drives for Industrial Electricians	2	2-2
<b>Sixth Semester</b>			
ELEC-IND 50413757	Codes for Industrial Electricians 6: Conductors, Raceways and Data/Communication Cables	0	1-0
ELEC-IND 50413766	Fluid Power Systems for Industrial Electricians - Pneumatics	0	0.77-0
ELEC-IND 50413767	Fluid Power Systems for Industrial Electricians- Hydraulics	0	0.77-0
ELEC-IND 50413772	Green Awareness for the E&I Trades	1	1.55-0
<b>Seventh Semester</b>			
ELEC 50413768	Industrial Electrician Solid State Electronics	2	2-2
<b>Eighth Semester</b>			
ELEC 50413769	Industrial Electrician Programmable Logic Controllers 1	1	1-1
ELEC 50413770	Industrial Electrician Programmable Logic Controllers 2	1	1-1
<b>Ninth Semester</b>			

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ELEC 50413758	Codes for Industrial Electricians 7: Motors and Generators	0	1-0
ELEC 50413759	Codes for Industrial Electricians 8: Transformers	0	1-0
ELEC 50413771	Industrial Electrician Programmable Logic Controllers 3	1	1-1

# Industrial Electro-Mechanical Essentials

Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

Required Courses		Credits/Units	Hrs/Week LEC-LAB
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
INSAFE 10449100	Safety for Industry	1	0-2
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
IND MECH 10462331	DCAC 3 Theory	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MACHT 32420330	Metal Processes 1	2	2-2
	10-442-126 Metal Repair Techniques may be taken in place of Metal Processes 1	2	
MACHT 32420349	Basic Metrology (Part A)	1	2-0
	32-420-351 Elements of Basic Metrology may be taken in place of Basic Metrology (Part A)	2	

# Industrial Mechanic - HVAC

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
INSAFE 10449100	Safety for Industry	1	0-2
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
HVAC 10601330	Refrigeration Fundamentals	2	0-4
HVAC 10601336	EPA 608 Training & Certification	1	0.5-1
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
<i>One of the following math courses (or higher-level courses that can be found on your degree progress report):</i>			
MATH 10804107	College Mathematics	3	2-2
MATH 10804113	College Technical Math 1A	3	3-0
<b>Second Semester</b>			
MTLFAB 10457100	Metal Repair Techniques	2	0-4
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
IND MECH 10462331	DCAC 3 Theory	1	0-2
HVAC 10601304	Industrial Fluid Distribution Systems	2	0-4
HVAC 10601332	Heating and Air Conditioning Advanced	3	1-4
HVAC 10601340	Forced Air Heating Systems	2	0-4
HVAC 10601342	Hydronic and Steam Systems	3	1-4



# Industrial Mechanic-Advanced Manufacturing

A Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
INSAFE 10449100	Safety for Industry	1	0-2
MTLFAB 10457100	Metal Repair Techniques	2	0-4
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462105	Fluid Power 2 for Industry	2	0-4
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MATH 10804107	College Mathematics	3	2-2
<b>Second Semester</b>			
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462107	Mechanisms for Industry 2	1	0-2
IND MECH 10462331	DCAC 3 Theory	1	0-2
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
IND MECH 10462309	Maintenance Management	2	0-4
MECTEC 10606202	Computer-Assisted Design-2D	2	0.5-3
EMTEC 10620100	Introduction to PLCs	1	0-2
EMTEC 10620106	Robotics for Industrial Automation 1	1	0-2
EMTEC 10620112	Integration Introduction	2	0-4
ENGLISH 10801195	Written Communication	3	3-0

## Industrial Mechanic-Facilities

### A One Year Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
INSAFE 10449100	Safety for Industry	1	0-2
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
HVAC 10601304	Industrial Fluid Distribution Systems	2	0-4
HVAC 10601330	Refrigeration Fundamentals	2	0-4
HVAC 10601336	EPA 608 Training & Certification	1	0.5-1
MECTEC 10606201	Interpreting Engineering Drawings Part A	1	0-2
CONST 31410309	Plan Reading and Drawing	1	1-1
CONST 31410410	Fundamentals of Construction 1	2	1-3
<b>Second Semester</b>			
MTLFAB 10457100	Metal Repair Techniques	2	0-4
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462309	Maintenance Management	2	0-4
IND MECH 10462334	Facilities Maintenance	3	0-6
HVAC 10601332	Heating and Air Conditioning Advanced	3	1-4
HVAC 10601340	Forced Air Heating Systems	2	0-4
CONST 31410311	Commercial Construction	1	0-2
CONST 31410363	Building Science and Sustainability	1	2-0
CONST 31410411	Fundamentals of Construction 2	1	0-2

# Injection Mold Set-Up (Plastic) Apprentice

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
PLASTIC 50463501	Industrial Math 1	1	1.5-0.5
PLASTIC 50463713	Schematics for Apprentices	1	1.61-0.38
<b>Second Semester</b>			
PLASTIC 50463714	Introduction to Injection Molding	2	2.77-1.22
<b>Third Semester</b>			
ELEC 50413701	Fundamentals of Electricity for Apprentices	1	1.61-0.38
PLASTIC 50463502	Industrial Math 2	1	1.5-0.5
<b>Fourth Semester</b>			
PLASTIC 50463715	Injection Mold Design	2	2.77-1.22
<b>Fifth Semester</b>			
HYDPNEU 50419501	Hydraulics for Apprentices	1	1.61-0.38
HYDPNEU 50419502	Pneumatics for Apprentices	1	1.61-0.38
<b>Sixth Semester</b>			
PLASTIC 50463716	Fundamentals of Plastics Processing	2	2.77-1.22
<b>Seventh Semester</b>			
PLASTIC 50463717	Plastic Processing Design & Troubleshooting	2	2.77-1.22
<b>Eighth Semester</b>			
AUTMFG 50664718	Automation for Apprentices	2	2.77-1.22

# Insurance Certificate for the Business Professional Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>COURSES</b>			
<b>Courses</b>			
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	1	2-0
ADMINPRF 10106164	Customer Contact Skills	2	2-0
BUSADM 10102134	Business Organization, Management, and Ethics	3	3-0
BUSADM 10102134	Introduction to Business	3	3-0
INSMGT 10162125	Intro to Property & Casualty Insurance - PreLicensing	3	3-0
INSMGT 10162131	Intro to Life & Health Insurance	3	3-0

# Interdisciplinary Global Studies Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

**Hrs/Week**  
**Credits/Units LEC-LAB**

**15 credits minimum to complete the certificate by satisfying all the requirements as defined.**

**World Language Requirement (3-8 credits)**

*As part of the certificate, all students are required to take at least 3 credits of a language that is not their native language. The college defines your "native language" as the language of instruction during your high school years.*

SPANISH 10802102	Introductory Spanish Conversation 1	3	3-0
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2

**Internationalized Courses Requirement (5-10 credits)**

*In combination with the language, study abroad, and capstone requirements, complete additional courses to bring the certificate to a total of 15 credits.*

*Choose from courses as listed in the following disciplines:*

- English Literature and Journalism*
- History*
- Music*
- Natural Science*
- Social and Behavioral Science*
- Speech/Drama*
- Art*
- Other Disciplines*
- Interdisciplinary Humanities*

**English Literature and Journalism**

ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0

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ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801223	Peace, Conflict, and Literature: The Arts of the Contact Zone	3	3-0
ENGLISH 20801224	Special Topics in International Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian/Soviet Literature in Translation	3	3-0
JOURNAL 20801252	World Issues Journalism	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
<b>History</b>			
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803226	East Asian Civilization	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
<b>Music</b>			
MUSIC 20805207	World Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
<b>Natural Science</b>			
BIOLOGY 20806280	Environmental Issues	3	3-0
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
<b>Social and Behavioral Science</b>			
ECON 20809214	Intro International Econ	3	3-0
POLISCI 20809220	American Foreign Policy	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
ECON 20809228	Environmental Economics	3	3-0
POLISCI 20809243	Comparative Politics	3	3-0
POLISCI 20809244	Russian Politics	3	3-0
POLISCI 20809245	Latin American Politics	3	3-0
POLISCI 20809246	African Politics	3	3-0
POLISCI 20809247	East Asian Politics	3	3-0
POLISCI 20809248	Politics of India	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809278	Intro to Buddhism	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ANTHRO 20809287	Anthropology of Islamic Societies and Cultures	3	3-0
ANTHRO 20809289	World Regional Geography	3	3-0
<b>Speech/Drama</b>			
DRAMA 20810232	International Arts Intensive-Theatre	3	3-0

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FILM 20810254	History Of World Cinema	3	2-2
<b>Art</b>			
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815228	Art History: Global Arts	3	3-0
<b>Other Disciplines</b>			
BUSADM 10102154	International Business Procedures	3	3-0
MKTG 10104180	Global Marketing	3	3-0
FSHNMKTG 10104183	International Business in Fashion	2	0-4
MKTG 10104187	Global Studies Seminar	3	3-0
PARALEG 10110171	Immigration Law	3	3-0
GLBL ED 10140107	Perspectives on Study Abroad	1	1-0
INSMGT 10162136	Current Issues in Risk Management and Insurance	1	1-0
INDSGN 10304129	History of Interior Design	3	3-0
CUL ARTS 10316112	Cuisines of the World	2	0-4
CUL ARTS 10316144	Global Studies Culinary - Italy	3	2-2
NRSAD 10543291	Community Cultural Health Care	3	1-0
LANG INT 31538303	Cultural Competency and the Medical Setting	2	4-0
LANG INT 31538304	Introduction to Interpreting in Spanish	2	4-0
LANG INT 31538305	Introduction to Basic Translation Skills in Spanish	2	4-0
LANG INT 31538308	Interpreting in Healthcare in Spanish	1	2-0
LANG INT 31538309	Interpreting in Medical and Mental Health Settings	1	2-0
LANG INT 31538313	Cultural Competency in a Medical Setting	1	2-0
<b>Interdisciplinary Humanities</b>			
<i>Students must meet the honors eligibility requirements to register for the following Honors courses. For more information, see the Honors Program page (<a href="https://madisoncollege.edu/honors">https://madisoncollege.edu/honors</a>).</i>			
HUMAN 20802802	Honors-Interdisciplinary Global Studies (2cr)	2	0-0
HUMAN 20802902	Honors-Interdisciplinary Global Studies (3cr)	3	0-0
<b>Study Abroad Experience</b>			
<i>Every student must complete one approved education abroad (or equivalent) experience, whether it is a short term or long term program. Some study abroad programs may also provide credits towards the certificate. To see a list of study abroad programs offered through Madison College, visit the Study Abroad Website (<a href="https://madisoncollege.edu/education-abroad">https://madisoncollege.edu/education-abroad</a>). Students may inquire with the certificate advisor about the possibility of fulfilling this requirement through a service-learning experience tied to their Global Studies Capstone course.</i>			
<b>Global Studies Capstone Project Requirement</b>			
<i>As part of enrollment in an approved study abroad (or equivalent) experience, certificate students need to consult with the certificate advisor to prepare for the required Global Studies Capstone project.</i>			
HUMAN 20802280	Global Studies Capstone	2	2-0
<i>An Honors version of the capstone course may be taken to satisfy the requirement. The requirement will be met with the 2-credit course. Additionally, the 3-credit course would also satisfy the requirement. Students must meet the honors eligibility requirements. For more information, see the Honors Program page (<a href="https://madisoncollege.edu/honors">https://madisoncollege.edu/honors</a>).</i>			
HUMAN 20802803	Honors-Global Studies Capstone (2cr)	2	0-0
HUMAN 20802903	Honors-Global Studies Capstone (3cr)	3	0-0

# Interior Design

An Associate in Applied Arts Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
INDSGN 10304102	Studio 1 - Visual Design	3	1.5-3
INDSGN 10304106	Construction and Drafting for Interior Design	3	1.5-3
INDSGN 10304107	Furniture and Textiles	3	3-0
INDSGN 10304129	History of Interior Design	3	3-0
INDSGN 10304177	Technology for Interior Design 1	2	1-2
MATH 10804123	Math with Business Applications	3	3-0
<b>Second Semester</b>			
ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
INDSGN 10304120	Tech for Interior Design 2	3	1-4
INDSGN 10304123	Studio 2 - Space Planning	3	1-4
INDSGN 10304127	Materials and Estimating	3	3-0
INDSGN 10304142	Professional Practice for Interior Design	3	3-0
<b>Third Semester</b>			
INDSGN 10304137	Studio 3 - Human-Centered Design	2	1-2
INDSGN 10304178	Commercial Office Design	2	1-2
INDSGN 10304179	Kitchen and Bath Design	3	1-4
INDSGN 10304180	Technology for Interior Design 3	2	1-2
INDSGN 10304125	Residential Design 1	3	1.5-3
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Fourth Semester</b>			
INDSGN 10304143	Residential Design 2	3	1.5-3
INDSGN 10304182	Interior Design Internship	3	1-0
INDSGN 10304147	Portfolio Development	2	1-2
INDSGN 10304181	Studio 4 - Advanced Interior Design	4	2-4
SOC 10809197	Contemporary Amer Society	3	3-0



## Jail Officer Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
CRIMJUST 30504361	Basic Jail Officer Academy - Phase 1	3	4-2
CRIMJUST 30504362	Basic Jail Officer Academy - Phase 2	3	2-4

**Journalism**  
 Certificate

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
<b>Electives</b>			
<i>Students must also complete at least a minimum 5 credits from the following electives</i>			
PHOTO 10203173	Photojournalism	2	0-4
VICOM 10206147	Introduction to DSLR Video Production	2	0-4
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
ART 20815239	Digital Photography	3	0-6
GRDSGN 10201181	Introduction to Computer Graphics	3	0-6
GRDSGN 10201177	WebPage Design	3	0-6
JOURNAL 20801269	On-Air Performance	3	2-2
HUMAN 20801254	Media and Democracy	3	3-0

## Leadership Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
BUSADM 10102114	Business Communication	3	3-0
BUSADM 10102134	Introduction to Business	3	3-0
BUSADM 10102149	Business Management Techniques	3	3-0
<i>Business Management Techniques are pre-requisites to Strategic Leadership.</i>			
BUSADM 10102132	Strategic Leadership	3	3-0

**Legal Studies/Paralegal**  
 An Associate in Applied Science Degree

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Prior to start of program</b>			
PARALEG 10110175	Orientation to the Paralegal Profession	1	1-0
<b>First Semester</b>			
PARALEG 10110101	Introduction to Law	3	3-0
PARALEG 10110141	Computer Applications - Legal	3	3-0
PARALEG 10110173	Contract Law in a Global Economy	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Choose one of the following two courses:</b>			
ENGLISH 10801195	Written Communication	3	3-0
ENGLISH 20801201	English 1	3	3-0
<b>Second Semester</b>			
PARALEG 10110102	Civil Litigation I	3	3-0
PARALEG 10110104	Legal Research	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
SOC 10809197	Contemporary Amer Society	3	3-0
PARALEG 10110114	Administration Of Estates - Paralegal Program	3	3-0
<b>Third Semester</b>			
PARALEG 10110105	Legal Writing	3	3-0
PARALEG 10110106	Family Law	3	3-0
PARALEG 10110176	Career Building Techniques - Paralegal	2	2-0
PARALEG 10110122	Bankruptcy Law	3	3-0
MATH 10804144	Math of Finance	3	3-0
<b>Fourth Semester</b>			
PARALEG 10110107	Legal Aspects of Business Organizations	3	3-0
PARALEG 10110142	Paralegal Internship	3	1-0
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PARALEG 10110103	Civil Litigation 2	3	3-0
PARALEG 10110168	Criminal Law - Paralegal	3	3-0
<b>Other Program-Related Courses</b>			
PARALEG 10110110	Real Estate Law - Paralegal	3	3-0
PARALEG 10110115	Administrative Law	3	3-0
PARALEG 10110160	Employment Law - Paralegal	3	3-0
PARALEG 10110171	Immigration Law	3	3-0
PARALEG 10110108	E-Discovery and Digital Tools	3	3-0
PARALEG 10110144	Paralegal Clinic Internship	3	1-0

# Legal Studies/Paralegal Post-Baccalaureate

A One Year Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Prior to start of first semester</b>			
PARALEG 10110175	Orientation to the Paralegal Profession	1	1-0
<b>First Semester</b>			
PARALEG 10110101	Introduction to Law	3	3-0
PARALEG 10110102	Civil Litigation I	3	3-0
PARALEG 10110104	Legal Research	3	3-0
PARALEG 10110141	Computer Applications - Legal	3	3-0
PARALEG 10110176	Career Building Techniques - Paralegal	2	2-0
<b>Second Semester</b>			
PARALEG 10110105	Legal Writing	3	3-0
PARALEG 10110142	Paralegal Internship	3	1-0
PARALEG 10110114	Administration Of Estates - Paralegal Program	3	3-0
PARALEG 10110122	Bankruptcy Law	3	3-0
PARALEG 10110106	Family Law	3	3-0
<b>Other Program-Related Courses</b>			
PARALEG 10110110	Real Estate Law - Paralegal	3	3-0
PARALEG 10110115	Administrative Law	3	3-0
PARALEG 10110168	Criminal Law - Paralegal	3	3-0
PARALEG 10110171	Immigration Law	3	3-0
PARALEG 10110160	Employment Law - Paralegal	3	3-0
PARALEG 10110103	Civil Litigation 2	3	3-0
PARALEG 10110173	Contract Law in a Global Economy	3	3-0
PARALEG 10110108	E-Discovery and Digital Tools	3	3-0
PARALEG 10110107	Legal Aspects of Business Organizations	3	3-0

**Liberal Arts Transfer - Pre-major:  
Arts and Humanities**  
An Associate in Arts Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<i>60 credits minimum to complete the program by satisfying the all requirements as defined.</i>			
<b>English and Speech (9 credits)</b>			
<i>Six credits must be in composition - English 1 and one other composition course (English 2 recommended). Three credits must be in public speaking.</i>			
<i>Composition Courses</i>			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
<i>Public Speaking Courses</i>			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0
<b>Health/Wellness/Physical Education (1 credit)</b>			
<i>Completion of one of the listed courses is required.</i>			
<i>Physical Education Courses</i>			
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

**Humanities/Fine Arts (12 credits)**

## Madison Area Technical College

Select one literature course. Completion of courses from two additional disciplines is required. Choose courses from the following disciplines: art, drama, film, music, philosophy, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AA degree, including literature.

### Art Courses

ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815228	Art History: Global Arts	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815233	Digital Photography Independent Study	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6

### Drama Courses

DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1 cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2

### Film Courses

FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2

### Literature Courses

ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0

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ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
<i>Music Courses</i>			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
<i>Philosophy Courses</i>			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
<i>World Languages Courses</i>			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
<i>Writing and Communication Courses</i>			



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ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
COMM 20810206	Difficult Conversations	3	3-0
<i>Interdisciplinary Humanities Courses</i>			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0
<b>Mathematics and Natural Science (10 credits)</b>			
<i>Select one mathematics course at the level of Intermediate Algebra or higher. Select one biological science course and one physical science course; one of the courses must include a laboratory. If lab is a stand-alone course, the associated lecture component is also required.</i>			
<i>Mathematics Courses</i>			
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804240	Basic Statistics	4	3-2
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
<i>Biological Science Lab Courses</i>			
BIOLOGY 10806105	Principles of Animal Biology	4	3-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2

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BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
BIOLOGY 20806215	Botany	5	3-4
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806286	Environmental Science	4	2-4
<i>Biological Science Courses without Lab</i>			
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
<i>Physical Science Lab Courses</i>			
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
<i>Physical Science Courses without Lab</i>			
PHYSICS 20806220	Physics of Everyday Life	3	3-0
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806252	Natural Hazards	3	3-0
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
<b>Social Science (12 credits)</b>			
<i>Completion of courses from at least three disciplines is required. Choose courses from the following disciplines: anthropology, economics, education, history, political science, psychology, sociology, and interdisciplinary social science.</i>			
<i>Anthropology Courses</i>			
ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0

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ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
<i>Economics Courses</i>			
ECON 10809195	Economics	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ECON 20809228	Environmental Economics	3	3-0
<i>Education Courses</i>			
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
EDFOUND 20809217	Introduction to Special Education	3	3-0
SOC 20809217	Introduction to Special Education	3	3-0
<i>History Courses</i>			
HISTORY 20803201	Twentieth-Century America	3	3-0
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
<i>Political Science Courses</i>			
POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
<i>Psychology Courses</i>			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
<i>Sociology Courses</i>			
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0

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SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOC 20809295	Victimology	3	3-0
<i>Interdisciplinary Social Science Courses</i>			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
<b>Electives (16 credits)</b>			
<i>Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honor Project credits may also be applied (20-code courses only).</i>			
<i>Consult with your advisor to determine which courses are best for your intended transfer program (major and transfer institution).</i>			
BIOTECH 10007124	Molecular Biology 1	3	0-6
BIOTECH 10007125	Research Methods in Molecular Biology	3	0-6
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307187	ECE: Children with Differing Abilities	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	1-4
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804202	Intermediate Algebra Part 1	3	2-2
MATH 20804217	Introduction to Programming in Python	3	3-0
BIOLOGY 20806219	Biology for Innovators	1	0-2
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
MATH 20804391	Internship 1 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804392	Internship 1 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804393	Internship 1 Math/Stats/CS (3cr)	3	0.5-0
MATH 20804394	Internship 2 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804395	Internship 2 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804396	Internship 2 Math/Stats/CS (3cr)	3	0.5-0
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
GENENG 20806295	Introduction to Engineering	3	1-4
NATSCI 20806391	Internship 1 Science/Engr (1cr)	1	0.5-0
NATSCI 20806392	Internship 1 Science/Engr (2cr)	2	0.5-0
NATSCI 20806393	Internship 1 Science/Engr (3cr)	3	0.5-0
NATSCI 20806394	Internship 2 Science/Engr (1cr)	1	0.5-0
NATSCI 20806395	Internship 2 Science/Engr (2cr)	2	0.5-0

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NATSCI 20806396	Internship 2 Science/Engr (3cr)	3	0.5-0
COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0
<b>Ethnic Studies (One course)</b>			
<i>Course may also count toward Humanities/Fine Arts, Social Science, or Electives.</i>			
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
<b>Literature (One course)</b>			
<i>The course may also count toward fulfilling the Humanities and Fine Arts or Electives requirements.</i>			
<i>See Literature Courses under the Humanities and Fine Arts Requirement above.</i>			
<b>World Languages (One course)</b>			
<i>May be met with one year in high school with a grade of "C" or better OR one semester in college.</i>			
<i>College course may also count toward Humanities/Fine Arts or Electives.</i>			
<i>If requirement was satisfied with high school courses, email: <a href="mailto:enrollmentservices@madisoncollege.edu">enrollmentservices@madisoncollege.edu</a>.</i>			
<i>See World Languages Courses under the Humanities and Fine Arts Requirement above.</i>			

# Liberal Arts Transfer - Pre-major: Economics and Pre-Business

An Associate in Arts Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<i>60 credits minimum to complete the program by satisfying the all requirements as defined.</i>			
<b>English and Speech (9 credits)</b>			
<i>Six credits must be in composition - English 1 and one other composition course (English 2 recommended).</i>			
<i>Three credits must be in public speaking.</i>			
<i>Composition Courses</i>			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
<i>Public Speaking Courses</i>			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0

**Health/Wellness/Physical Education (1 credit)**

*Completion of one of the listed courses is required.*

*Physical Education Courses*

PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

**Humanities/Fine Arts (12 credits)**

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Select one literature course. Completion of courses from two additional disciplines is required. Choose courses from the following disciplines: art, drama, film, music, philosophy, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AA degree, including literature.

### Art Courses

ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815233	Digital Photography Independent Study	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6

### Drama Courses

DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2

### Film Courses

FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2

### Literature Courses

ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0

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ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
<i>Music Courses</i>			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
<i>Philosophy Courses</i>			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
<i>World Language Courses</i>			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
<i>Writing and Communication Courses</i>			
ENGLISH 10801195	Written Communication	3	3-0



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COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
COMM 20810206	Difficult Conversations	3	3-0
<i>Interdisciplinary Humanities Courses</i>			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0
<b>Mathematics and Natural Science (10 credits)</b>			
<i>Select one mathematics course at the level of Intermediate Algebra or higher. Select one biological science course and one physical science course; one of the courses must include a laboratory. If lab is a stand-alone course, the associated lecture component is also required.</i>			
<i>Recommended Mathematics Courses</i>			
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
<i>Additional Mathematics Courses</i>			
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804240	Basic Statistics	4	3-2
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
<i>Biological Science Lab Courses</i>			
BIOLOGY 10806105	Principles of Animal Biology	4	3-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2

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BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
BIOLOGY 20806215	Botany	5	3-4
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806286	Environmental Science	4	2-4
<i>Biological Science Courses without Lab</i>			
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
<i>Physical Science Lab Courses</i>			
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
<i>Physical Science Courses without Lab</i>			
PHYSICS 20806220	Physics of Everyday Life	3	3-0
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806252	Natural Hazards	3	3-0
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
<b>Social Science (12 credits)</b>			
<i>Required Social Science Courses</i>			
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
<i>Completion of one course from one additional discipline is required. Choose courses from the following disciplines: anthropology, education, history, political science, sociology, and interdisciplinary social science. Remaining credits to fulfill the requirement can be selected from any Social Science courses offered within the AA degree, including economics and psychology.</i>			
<i>Anthropology Courses</i>			

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ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
<i>Education</i>			
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
EDFOUND 20809217	Introduction to Special Education	3	3-0
SOC 20809217	Introduction to Special Education	3	3-0
<i>History Courses</i>			
HISTORY 20803201	Twentieth-Century America	3	3-0
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
<i>Political Science Courses</i>			
POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
<i>Sociology Courses</i>			
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOC 20809295	Victimology	3	3-0
<i>Interdisciplinary Social Science Courses</i>			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0

## Madison Area Technical College

### Electives (16 credits)

Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honors Project credits may also be applied (20-code courses only).

Consult with your advisor to determine which courses are best for your intended transfer program (major and transfer institution). Recommended electives are listed first in the list below.

ECON 20809214	Intro International Econ	3	3-0
ECON 20809228	Environmental Economics	3	3-0
BIOTECH 10007124	Molecular Biology 1	3	0-6
BIOTECH 10007125	Research Methods in Molecular Biology	3	0-6
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307187	ECE: Children with Differing Abilities	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	1-4
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
ECON 10809195	Economics	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804202	Intermediate Algebra Part 1	1	2-2
MATH 20804391	Internship 1 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804392	Internship 1 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804393	Internship 1 Math/Stats/CS (3cr)	3	0.5-0
MATH 20804394	Internship 2 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804395	Internship 2 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804396	Internship 2 Math/Stats/CS (3cr)	3	0.5-0
BIOLOGY 20806219	Biology for Innovators	1	0-2
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
GENENG 20806295	Introduction to Engineering	3	1-4
NATSCI 20806391	Internship 1 Science/Engr (1cr)	1	0.5-0
NATSCI 20806392	Internship 1 Science/Engr (2cr)	2	0.5-0
NATSCI 20806393	Internship 1 Science/Engr (3cr)	3	0.5-0
NATSCI 20806394	Internship 2 Science/Engr (1cr)	2	0.5-0
NATSCI 20806395	Internship 2 Science/Engr (2cr)	2	0.5-0
NATSCI 20806396	Internship 2 Science/Engr (3cr)	3	0.5-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
ECON 20809214	Intro International Econ	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
ECON 20809228	Environmental Economics	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0

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SOCSCI 20809269	Energy And Society	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0
<b>Ethnic Studies (One course)</b>			
<i>Course may also count toward Humanities/Fine Arts, Social Science, or Electives.</i>			
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
<b>Literature (One Course)</b>			
<i>Course may also count toward Humanities/Fine Arts or Electives</i>			
<i>See Literature Courses under the Humanities and Fine Arts Requirement above.</i>			
<b>World Languages (One course)</b>			
<i>May be met with one year in high school with a grade of "C" or better OR one semester in college.</i>			
<i>College courses may also count toward Humanities/Fine Arts or Electives.</i>			
<i>If requirement was satisfied with high school courses, email: <a href="mailto:enrollmentservices@madisoncollege.edu">enrollmentservices@madisoncollege.edu</a>.</i>			
<i>See World Language Courses under the Humanities and Fine Arts Requirement above.</i>			

# Liberal Arts Transfer - Pre-major: Education

An Associate in Arts Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<i>60 credits minimum to complete the program by satisfying the all requirements as defined.</i>			
<b>English and Speech (9 credits)</b>			
<i>Six credits must be in composition - English 1 and one other composition course (English 2 recommended).</i>			
<i>Three credits must be in public speaking.</i>			
<i>Composition Courses</i>			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
<i>Public Speaking Courses</i>			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0
<b>Health/Wellness/Physical Education (1 credit)</b>			
<i>Completion of one of the listed courses is required.</i>			
<b>Physical Education Courses</b>			
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

## Madison Area Technical College

### Humanities/Fine Arts (12 credits)

Select one literature course. Completion of courses from two additional disciplines is required. Choose courses from the following disciplines: art, drama, film, music, philosophy, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AA degree, including literature.

#### Art Courses

ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815233	Digital Photography Independent Study	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6

#### Drama Courses

DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2

#### Film Courses

FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2

#### Literature Courses

ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801227	Children's Literature	3	3-0

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ENGLISH 20801229	Contemporary Lit	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
<i>Music Courses</i>			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
<i>Philosophy Courses</i>			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
<i>World Languages Courses</i>			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2



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<i>Writing and Communication Courses</i>			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
COMM 20810206	Difficult Conversations	3	3-0
<i>Interdisciplinary Humanities Courses</i>			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0
<b>Mathematics and Natural Science (10 credits)</b>			
<i>Select one mathematics course at the level of Intermediate Algebra or higher. Select one biological science course and one physical science course; one of the courses must include a laboratory. If lab is a stand-alone course, the associated lecture component is also required.</i>			
<i>Mathematics Courses</i>			
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804240	Basic Statistics	4	3-2
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
<i>Biological Science Lab Courses</i>			
BIOLOGY 10806105	Principles of Animal Biology	4	3-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2

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BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
BIOLOGY 20806215	Botany	5	3-4
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806286	Environmental Science	4	2-4
<i>Biological Courses without Lab</i>			
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
<i>Physical Science Lab Courses</i>			
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
<i>Physical Science Courses without Lab</i>			
PHYSICS 20806220	Physics of Everyday Life	3	3-0
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806252	Natural Hazards	3	3-0
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
<b>Social Science (12 credits)</b>			
<i>Required Education Course</i>			
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
<i>Required Psychology Course</i>			
PSYCH 20809231	Intro Psychology	3	3-0
<i>Required Social Science Course</i>			
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
<i>The remaining 3 credits to fulfill the requirement can be selected from any social science courses</i>			

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<i>offered within the AA degree.</i>			
<i>Anthropology Courses</i>			
ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
<i>Economics Courses</i>			
ECON 10809195	Economics	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ECON 20809228	Environmental Economics	3	3-0
<i>Education Courses</i>			
EDFOUND 20809217	Introduction to Special Education	3	3-0
SOC 20809217	Introduction to Special Education	3	3-0
<i>History Courses</i>			
HISTORY 20803201	Twentieth-Century America	3	3-0
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
<i>Political Science Courses</i>			
POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
<i>Psychology Courses</i>			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
<i>Sociology Courses</i>			
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0

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SOC 20809229	Social Movements	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809295	Victimology	3	3-0
<i>Interdisciplinary Social Science Courses</i>			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
<b>Electives (16 credits)</b>			
<i>Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honor Project credits may also be applied (20-code courses only)</i>			
<i>Consult with your advisor to determine which courses are best for your intended transfer program (major and transfer institution).</i>			
BIOTECH 10007124	Molecular Biology 1	3	0-6
BIOTECH 10007125	Research Methods in Molecular Biology	3	0-6
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307187	ECE: Children with Differing Abilities	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	1-4
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804202	Intermediate Algebra Part 1	1	2-2
MATH 20804217	Introduction to Programming in Python	3	3-0
MATH 20804391	Internship 1 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804392	Internship 1 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804393	Internship 1 Math/Stats/CS (3cr)	3	0.5-0
MATH 20804394	Internship 2 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804395	Internship 2 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804396	Internship 2 Math/Stats/CS (3cr)	3	0.5-0
BIOLOGY 20806219	Biology for Innovators	1	0-2
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
GENENG 20806295	Introduction to Engineering	3	1-4
NATSCI 20806391	Internship 1 Science/Engr (1cr)	1	0.5-0
NATSCI 20806392	Internship 1 Science/Engr (2cr)	2	0.5-0
NATSCI 20806393	Internship 1 Science/Engr (3cr)	3	0.5-0

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NATSCI 20806394	Internship 2 Science/Engr (1cr)	2	0.5-0
NATSCI 20806395	Internship 2 Science/Engr (2cr)	2	0.5-0
NATSCI 20806396	Internship 2 Science/Engr (3cr)	3	0.5-0
COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0
<b>Ethnic Studies (One course)</b>			
<i>Course may also count toward Humanities/Fine Arts, Social Science, or Electives.</i>			
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
<b>Literature (One Course)</b>			
<i>Course may also count toward Humanities/Fine Arts or Electives</i>			
<i>See Literature Courses under the Humanities and Fine Arts Requirement above.</i>			
<b>World Languages (One course)</b>			
<i>May be met with one year in high school with a grade of "C" or better OR one semester in college.</i>			
<i>College courses may also count toward Humanities/Fine Arts or Electives.</i>			
<i>If requirement was satisfied with high school courses, email: <a href="mailto:enrollmentservices@madisoncollege.edu">enrollmentservices@madisoncollege.edu</a>.</i>			
<i>See World Languages Courses under the Humanities and Fine Arts Requirement above.</i>			

# Liberal Arts Transfer - Pre-major: Engineering

An Associate in Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<i>60 credits minimum to complete the program by satisfying the all requirements as defined.</i>			
<b>English and Speech (9 credits)</b>			
<i>Six credits must be in composition - English 1 and one other composition course (English 2 recommended). Three credits must be in public speaking.</i>			
<i>Composition Courses</i>			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
<i>Public Speaking Courses</i>			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0

**Health/Wellness/Physical Education (1 credit)**  
*Completion of one of the listed courses is required.*

<i>Physical Education Courses</i>			
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

**Mathematics and Natural Science (25 credits)**

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<i>Required Mathematics and Chemistry Courses</i>			
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
<i>Choose one of the following options to satisfy the Physical Science requirement.</i>			
<i>Physical Science Option 1:</i>			
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
<i>Physical Science Option 2:</i>			
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
<b>Humanities/Fine Arts (6 credits)</b>			
<i>Select one literature course. Completion of one course from one additional discipline is required.</i>			
<i>Choose from the following disciplines: art, drama, film, music, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AS degree, including literature.</i>			
<i>Literature Courses</i>			
ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
<i>Art Courses</i>			
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815233	Digital Photography Independent Study	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6

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ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6
<i>Drama Courses</i>			
DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2
<i>Film Courses</i>			
FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2
<i>Music Courses</i>			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
<i>Philosophy Courses</i>			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
<i>World Languages Courses</i>			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2



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SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
<i>Writing and Communicat on Courses</i>			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1 (1cr)	1	0-2
JOURNAL 20801272	Journalism Practicum 1 (2cr)	2	0-2
JOURNAL 20801273	Journalism Practicum 2 (1cr)	1	0-4
JOURNAL 20801274	Journalism Practicum 2 (2cr)	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
COMM 20810206	Difficult Conversations	3	3-0
<i>Interdisciplinary Humanities Courses</i>			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0
<b>Social Science (6 credits)</b>			
<i>Choose Option #1 or Option #2 to satisfy the requirement.</i>			
<i>Social Science Option #1</i>			
<i>Required Economics Courses</i>			
ECON 20809212	Micro Economics	3	3-0
ECON 20809228	Environmental Economics	3	3-0
<i>Social Science Option #2</i>			
<i>Completion of courses from at least two disciplines is required. Choose courses from the following disciplines: anthropology, economics, education, history, political science, psychology, sociology, and interdisciplinary social science.</i>			
<i>Anthropology Courses</i>			
ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
<i>Economics Courses</i>			
ECON 10809195	Economics	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0

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ECON 20809228	Environmental Economics	3	3-0
<i>Education Courses</i>			
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
EDFOUND 20809217	Introduction to Special Education	3	3-0
SOC 20809217	Introduction to Special Education	3	3-0
<i>History Courses</i>			
HISTORY 20803201	Twentieth-Century America	3	3-0
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
<i>Political Science Courses</i>			
POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
<i>Psychology Courses</i>			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
<i>Sociology Courses</i>			
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOC 20809295	Victimology	3	3-0
<i>Interdisciplinary Social Science Courses</i>			

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SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
<b>Ethnic Studies (One course)</b>			
<i>Course may also count toward Humanities/Fine Arts, Social Science, or Electives</i>			
SOC 10809172	Introduction to Diversity Studies	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
<b>Literature (One Course)</b>			
<i>Course may also count toward Humanities/Fine Arts or Electives</i>			
<i>See Literature Courses under the Humanities and Fine Arts Requirement above.</i>			
<b>World Languages (One course)</b>			
<i>May be met with one year of high school with a grade of "C" or better OR one semester in college.</i>			
<i>College course may also count toward Humanities/Fine Arts or Electives.</i>			
<i>See World Languages Courses under the Humanities and Fine Arts Requirement above.</i>			
<i>If requirement was satisfied with high school courses, email: <a href="mailto:enrollmentservices@madisoncollege.edu">enrollmentservices@madisoncollege.edu</a>.</i>			
<b>Engineering Related Electives (13 credits)</b>			
<i>Consult with your advisor to determine which courses are best for your intended transfer program.</i>			
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	1-4
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804233	Calculus 3	5	5-0
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4

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BIOLOGY 20806274	General Microbiology	5	3-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
SOCSCI 20809269	Energy And Society	3	3-0

**Liberal Arts Transfer - Pre-major:  
 Pre-Professional Health**  
 An Associate in Science Degree

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<i>60 credits minimum to complete the program by satisfying the all requirements as defined.</i>			
<b>English and Speech (9 credits)</b>			
<i>Six credits must be in composition - English 1 and one other composition course (English 2 recommended).</i>			
<i>Three credits must be in public-speaking</i>			
<i>Composition Courses</i>			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
<i>Public Speaking Courses</i>			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0

**Health/Wellness/Physical Education (1 credit)**

*Completion of one of the listed courses is required.*

*Physical Education Courses*

PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

**Humanities/Fine Arts (6 credits)**

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Select one literature course. Completion of one course from one additional discipline is required. Choose from the following disciplines: art, drama, film, music, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AS degree, including literature.

### Art Courses

ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815233	Digital Photography Independent Study	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6

### Drama Courses

DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2

### Film Courses

FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2

### Literature Courses

ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0

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ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
<i>Music Courses</i>			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
<i>Philosophy Courses</i>			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
<i>World Languages Courses</i>			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
<i>Writing and Communication Courses</i>			

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ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
COMM 20810206	Difficult Conversations	3	3-0
<i>Interdisciplinary Humanities Courses</i>			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0
<b>Mathematics and Statistics (7 credits)</b>			
<i>Basic Statistics is required. Select one additional mathematics course at the level of College Algebra or higher.</i>			
<i>Required Statistics course</i>			
MATH 20804240	Basic Statistics	4	3-2
<i>Select at least one of the following Mathematics courses.</i>			
<i>Mathematics Courses</i>			
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
<b>Natural Science (13-15 credits)</b>			
<i>Complete the listed courses under the selected science option.</i>			
<i>Consult with your advisor to determine which set of courses are best for your intended transfer program (major and transfer institution).</i>			
<i>Option 1 (pre-med or PA path):</i>			
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
CHEM 20806209	College Chemistry 1	5	3-4



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<i>Option 2 (alternate PA path):</i>			
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806215	Botany	5	3-4
CHEM 20806209	College Chemistry 1	5	3-4
<i>Option 3 (nursing path) Chemistry portion (select one):</i>			
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
<i>Option 3 (nursing path) Biology portion:</i>			
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
<b>Social Science (6 credits)</b>			
<i>Required Psychology Course</i>			
PSYCH 20809231	Intro Psychology	3	3-0
<i>Required Sociology Course</i>			
SOC 20809203	Intro Sociology	3	3-0
<b>Electives (18 credits)</b>			
<i>Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honor Project credits may also be applied (20-code courses only).</i>			
<i>Consult with your advisor to determine which courses are best for your intended transfer program (major and transfer institution).</i>			
BIOTECH 10007124	Molecular Biology 1	3	0-6
BIOTECH 10007125	Research Methods in Molecular Biology	3	0-6
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307187	ECE: Children with Differing Abilities	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	1-4
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
BIOLOGY 10806105	Principles of Animal Biology	4	3-2
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
POLISCI 10809122	Intro to Amer Government	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
ECON 10809195	Economics	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
HISTORY 20803201	Twentieth-Century America	3	3-0
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0

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HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804202	Intermediate Algebra Part 1	1	2-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804217	Introduction to Programming in Python	3	3-0
MATH 20804391	Internship 1 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804392	Internship 1 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804393	Internship 1 Math/Stats/CS (3cr)	3	0.5-0
MATH 20804394	Internship 2 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804395	Internship 2 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804396	Internship 2 Math/Stats/CS (3cr)	3	0.5-0
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
BIOLOGY 20806215	Botany	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
BIOLOGY 20806219	Biology for Innovators	1	0-2
PHYSICS 20806220	Physics of Everyday Life	3	3-0
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
GENENG 20806234	Mechanics of Materials	4	3-2
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
EARTHSCI 20806252	Natural Hazards	3	3-0
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4

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BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
BIOLOGY 20806286	Environmental Science	4	2-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
GENENG 20806295	Introduction to Engineering	3	1-4
NATSCI 20806391	Internship 1 Science/Engr (1cr)	1	0.5-0
NATSCI 20806392	Internship 1 Science/Engr (2cr)	2	0.5-0
NATSCI 20806393	Internship 1 Science/Engr (3cr)	3	0.5-0
NATSCI 20806394	Internship 2 Science/Engr (1cr)	2	0.5-0
NATSCI 20806395	Internship 2 Science/Engr (2cr)	2	0.5-0
NATSCI 20806396	Internship 2 Science/Engr (3cr)	3	0.5-0
PSYCH 20809201	Human Sexuality	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOC 20809207	Criminology	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
EDFOUND 20809217	Introduction to Special Education	3	3-0
SOC 20809217	Introduction to Special Education	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
POLISCI 20809227	Political Theory	3	3-0
ECON 20809228	Environmental Economics	3	3-0
SOC 20809229	Social Movements	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psychology	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
SOC 20809291	Technology and Society	3	3-0

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SOC 20809293	Field Experience in Latin America	1	1-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
SOC 20809295	Victimology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0
<b>Ethnic Studies (One course)</b>			
<i>Course may also count toward Humanities/Fine Arts, Social Science, or Electives</i>			
SOC 10809172	Introduction to Diversity Studies	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
<b>World Languages (One course)</b>			
<i>May be met with one year in high school with a grade of "C" or better OR one semester in college.</i>			
<i>College courses may also count toward Humanities/Fine Arts or Electives.</i>			
<i>If requirement was satisfied with high school courses, email: <a href="mailto:enrollmentservices@madisoncollege.edu">enrollmentservices@madisoncollege.edu</a>.</i>			
<i>See World Languages Courses under the Humanities and Fine Arts Requirement above.</i>			
<b>Literature (One Course)</b>			
<i>This course may also count toward fulfilling the Humanities and Fine Arts or Electives requirements.</i>			
<i>See Literature Courses under the Humanities and Fine Arts Requirement above.</i>			

# Liberal Arts Transfer - Pre-major: Science, Math, and Technology

An Associate in Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<i>60 credits minimum to complete the program by satisfying the all requirements as defined.</i>			
<b>English and Speech (9 credits)</b>			
<i>Six credits must be in composition - English 1 and one other composition course (English 2 recommended).</i>			
<i>Three credits must be in public speaking.</i>			
<i>Composition Courses</i>			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
<i>Public Speaking Courses</i>			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0

**Health/Wellness/Physical Education (1 credit)**

*Completion of one of the listed courses is required.*

*Physical Education Courses*

PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

**Humanities/Fine Arts (6 credits)**

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Select on literature course. Completion of one course from one additional discipline is required. Choose from the following disciplines: art, drama, film, music, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AS degree, including literature.

### Art Courses

ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815211	Art History: Women In Art	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815233	Digital Photography Independent Study	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6

### Drama Courses

DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2

### Film

FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2

### Literature Courses

ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0

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ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
<i>Music Courses</i>			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
<i>Philosophy Courses</i>			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
<i>World Languages Courses</i>			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
<i>Writing and Communication Courses</i>			

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ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
COMM 20810206	Difficult Conversations	3	3-0
<i>Interdisciplinary Humanities Courses</i>			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0
<b>Mathematics and Natural Science (20 credits)</b>			
<i>Select one mathematics course at the level of College Algebra or higher. Select one biological science course and one physical science course. Both courses must include a laboratory.</i>			
<i>Remaining credits to fulfill the requirement can be selected from any mathematics or natural science courses offered within the AS degree.</i>			
<i>Mathematics Courses</i>			
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804240	Basic Statistics	4	3-2
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
<i>Biological Science Lab Courses</i>			
BIOLOGY 10806105	Principles of Animal Biology	4	3-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
BIOLOGY 20806215	Botany	5	3-4
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4



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BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806286	Environmental Science	4	2-4
<i>Biological Science Courses without Lab</i>			
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
<i>Physical Science Lab Courses</i>			
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
<i>Physical Science Courses without Lab</i>			
PHYSICS 20806220	Physics of Everyday Life	3	3-0
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806252	Natural Hazards	3	3-0
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
<i>Additional courses available to meet 20 credit mathematics and natural science requirement.</i>			
BUSADM 10102104	Business Statistics	3	3-0
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804202	Intermediate Algebra Part 1	3	2-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804217	Introduction to Programming in Python	3	3-0
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2

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### **Social Science (6 credits)**

*Completion of courses from at least two disciplines is required. Choose courses from the following disciplines: anthropology, economics, history, political science, psychology, sociology, and interdisciplinary social science.*

#### *Anthropology Courses*

ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0

#### *Economics Courses*

ECON 10809195	Economics	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ECON 20809228	Environmental Economics	3	3-0

#### *Education Courses*

EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
EDFOUND 20809217	Introduction to Special Education	3	3-0
SOC 20809217	Introduction to Special Education	3	3-0

#### *History Courses*

HISTORY 20803201	Twentieth-Century America	3	3-0
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
ECON 20809214	Intro International Econ	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0

#### *Political Science Courses*

POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
PSYCH 20809237	Abnormal Psychology	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0

#### *Psychology Courses*

PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0

#### *Sociology Courses*

SOC 10809172	Introduction to Diversity Studies	3	3-0
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SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOC 20809295	Victimology	3	3-0
<i>Interdisciplinary Social Science Courses</i>			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
<b>Electives (18 credits)</b>			
<i>Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honor Project credits may also be applied (20-code courses only).</i>			
<i>Consult with your advisor to determine which courses are best for your intended transfer program (major and transfer institution).</i>			
BIOTECH 10007124	Molecular Biology 1	3	0-6
BIOTECH 10007125	Research Methods in Molecular Biology	3	0-6
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307187	ECE: Children with Differing Abilities	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	1-4
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
MATH 20804391	Internship 1 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804392	Internship 1 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804393	Internship 1 Math/Stats/CS (3cr)	3	0.5-0
MATH 20804394	Internship 2 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804395	Internship 2 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804396	Internship 2 Math/Stats/CS (3cr)	3	0.5-0
BIOLOGY 20806219	Biology for Innovators	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
GENENG 20806295	Introduction to Engineering	3	1-4
NATSCI 20806391	Internship 1 Science/Engr (1cr)	1	0.5-0
NATSCI 20806392	Internship 1 Science/Engr (2cr)	2	0.5-0
NATSCI 20806393	Internship 1 Science/Engr (3cr)	3	0.5-0
NATSCI 20806394	Internship 2 Science/Engr (1cr)	2	0.5-0

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NATSCI 20806395	Internship 2 Science/Engr (2cr)	2	0.5-0
NATSCI 20806396	Internship 2 Science/Engr (3cr)	3	0.5-0
COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0
<b>Ethnic Studies (One course)</b>			
<i>Course may also count toward Humanities/Fine Arts, Social Science, or Electives.</i>			
SOC 10809172	Introduction to Diversity Studies	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
<b>Literature (One course)</b>			
<i>The course may also count toward fulfilling the Humanities and Fine Arts or Electives requirements.</i>			
<i>See Literature Courses under the Humanities and Fine Arts Requirement above.</i>			
<b>World Languages (One course)</b>			
<i>May be met with one year in high school with a grade of "C" or better OR one semester in college.</i>			
<i>College course may also count toward Humanities/Fine Arts or Electives.</i>			
<i>If requirement was satisfied with high school courses, email: <a href="mailto:enrollmentservices@madisoncollege.edu">enrollmentservices@madisoncollege.edu</a>.</i>			
<i>See World Languages Courses under the Humanities and Fine Arts Requirement above.</i>			

**Liberal Arts Transfer - Pre-major:  
 Social Sciences**  
 An Associate in Arts Degree

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<i>60 credits minimum to complete the program by satisfying the all requirements as defined.</i>			
<b>English and Speech (9 credits)</b>			
<i>Six credits must be in composition - English 1 and one other composition course (English 2 recommended).</i>			
<i>Three credits must be in public speaking.</i>			
<i>Composition Courses</i>			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
<i>Public Speaking Courses</i>			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0

**Health/Wellness/Physical Education (1 credit)**

*Completion of one of the listed courses is required.*

*Physical Education Courses*

PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

**Humanities/Fine Arts (12 credits)**

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Select one literature course. Completion of courses from two additional disciplines is required. Choose courses from the following disciplines: art, drama, film, music, philosophy, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AA degree, including literature.

### Art Courses

ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815233	Digital Photography Independent Study	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6

### Drama Courses

DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1 cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2

### Film Courses

FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2

### Literature Courses

ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0

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ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
<i>Music Courses</i>			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
<i>Philosophy Courses</i>			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
<i>World Language Courses</i>			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
<i>Writing and Communication Courses</i>			

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ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
COMM 20810206	Difficult Conversations	3	3-0
<i>Interdisciplinary Humanities Courses</i>			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0
<b>Mathematics and Natural Science (10 credits)</b>			
<i>Select one mathematics course at the level of Intermediate Algebra or higher. Select one biological science course and one physical science course; one of the courses must include a laboratory. If lab is a stand-alone course, the associated lecture component is also required.</i>			
<i>Mathematics Courses</i>			
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804240	Basic Statistics	4	3-2
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
<i>Biological Science Lab Courses</i>			
BIOLOGY 10806105	Principles of Animal Biology	4	3-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2



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BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
BIOLOGY 20806215	Botany	5	3-4
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806286	Environmental Science	4	2-4
<i>Biological Science Courses - without Lab</i>			
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
<i>Physical Science Lab Courses</i>			
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
<i>Physical Science Courses - without Lab</i>			
PHYSICS 20806220	Physics of Everyday Life	3	3-0
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806252	Natural Hazards	3	3-0
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
<b>Statistics (Recommendation)</b>			
<i>Completion of one course is recommended.</i>			
<i>Consult with your advisor to determine which statistics course is best for your intended transfer program (major and transfer institution).</i>			
<i>Option 1: Statistics for Social Sciences</i>			
<i>*Preferred statistics recommendation. Recommended for all Social Science Pre-major students, especially those interested in Psychology and Sociology paths. Course may count towards the social science requirement or electives.</i>			
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
<i>Option 2: Basic Statistics</i>			

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*\*Acceptable alternate to statistics recommendation. Course may count towards the math/science requirement or electives.*

MATH 20804240	Basic Statistics	4	3-2
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**Social Science (12 credits)**

*Required Options: Completion of two of these courses is required.*

POLISCI 10809122	Intro to Amer Government	3	3-0
SOC 20809203	Intro Sociology	3	3-0
ECON 20809211	Macro Economics	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0

*Completion of courses from at least one additional disciplines is required. Choose courses from the following disciplines: anthropology, economics, education, history, political science, psychology, sociology, and interdisciplinary social science. Remaining credits to fulfill the requirement can be selected from any social science courses offered within the AA degree..*

*Anthropology Courses*

ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0

*Economics Courses*

ECON 10809195	Economics	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ECON 20809228	Environmental Economics	3	3-0

*Education Courses*

EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
EDFOUND 20809217	Introduction to Special Education	3	3-0
SOC 20809217	Introduction to Special Education	3	3-0

*History Courses*

HISTORY 20803201	Twentieth-Century America	3	3-0
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0

*Political Science Courses*

POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0

*Psychology Courses*

PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0

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PSYCH 20809225	Social Psychology	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
<i>Sociology Courses</i>			
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOC 20809295	Victimology	3	3-0
<i>Interdisciplinary Social Science Courses</i>			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
<b>Electives (16 credits)</b>			
<i>Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honor Project credits may also be applied (20-code courses only)</i>			
<i>Consult with your advisor to determine which courses are best for your intended transfer institution and program.</i>			
BIOTECH 10007124	Molecular Biology 1	3	0-6
BIOTECH 10007125	Research Methods in Molecular Biology	3	0-6
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307187	ECE: Children with Differing Abilities	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	1-4
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662252	Introduction to Computer Engineering	3	1-4
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0

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MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804202	Intermediate Algebra Part 1	3	2-2
MATH 20804217	Introduction to Programming in Python	3	3-0
MATH 20804391	Internship 1 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804392	Internship 1 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804393	Internship 1 Math/Stats/CS (3cr)	3	0.5-0
MATH 20804394	Internship 2 Math/Stats/CS (1cr)	1	0.5-0
MATH 20804395	Internship 2 Math/Stats/CS (2cr)	2	0.5-0
MATH 20804396	Internship 2 Math/Stats/CS (3cr)	3	0.5-0
BIOLOGY 20806219	Biology for Innovators	1	0-2
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806295	Introduction to Engineering	3	1-4
GENENG 20806294	Engineering Seminar	1	0.5-1
NATSCI 20806391	Internship 1 Science/Engr (1cr)	1	0.5-0
NATSCI 20806392	Internship 1 Science/Engr (2cr)	2	0.5-0
NATSCI 20806393	Internship 1 Science/Engr (3cr)	3	0.5-0
NATSCI 20806394	Internship 2 Science/Engr (1cr)	2	0.5-0
NATSCI 20806395	Internship 2 Science/Engr (2cr)	2	0.5-0
NATSCI 20806396	Internship 2 Science/Engr (3cr)	3	0.5-0
COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0
<b>Ethnic Studies (One course)</b>			
<i>Course may also count toward Humanities/Fine Arts, Social Science, or Electives.</i>			
SOC 10809172	Introduction to Diversity Studies	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803216	Immigrants in U.S. History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
<b>Literature (One Course)</b>			
<i>Course may also count toward Humanities/Fine Arts or Electives</i>			
<i>See Literature Courses under the Humanities and Fine Arts Requirement above.</i>			
<b>World Languages (One course)</b>			
<i>May be met with one year in high school with a grade of "C" or better OR one semester in college.</i>			
<i>College courses may also count toward Humanities/Fine Arts or Electives.</i>			
<i>Email <a href="mailto:enrollmentservices@madisoncollege.edu">enrollmentservices@madisoncollege.edu</a> if requirement was satisfied with high school course work.</i>			
<i>See World Language Courses under the Humanities and Fine Arts Requirement above.</i>			

## Live Production Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
VICOM 10206156	Introduction to Careers in the Live Music Industry	1	1-0
VICOM 10206192	Live Audio Basics	3	1-4
VICOM 10206193	Live Lighting Design Basics	3	1-4
VICOM 10206194	Live Video Production Basics	3	1-4
<b>Second Semester</b>			
VICOM 10206198	Advanced Live Audio Production	3	2-2
VICOM 10206199	Advanced Live Lighting Production	3	2-2
VICOM 10206200	Advanced Live Video Production	3	2-2
VICOM 10206201	Live Production Portfolio	1	1-0
VICOM 10206196	Live Production Internship	1	0-0

# Machine Tool Operation

## A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MACHT 32420322	Machine Tool 1	4	2-6
MACHT 32420323	Machine Tool 2	4	2-6
MACHT 32420346	Intro to CNC - G-code Programming	2	2-2
MACHT 32420351	Elements of Basic Metrology	2	4-0
COMM 31801356	Communications 1	1	2-0
MATH 31804381	Machine Tool Math 1	2	4-0
<b>Second Semester</b>			
MATH 31804382	Machine Tool Math 2	1	2-0
MACHT 32420324	Machine Tool 3	4	2-6
MACHT 32420325	Machine Tool 4	4	2-6
MACHT 32420337	Manufacturing w/Solid Modeling-2D	2	4-0
MACHT 32420348	Applied CNC-Conversational and Setup	2	2-2
MACHT 32420352	Intermediate Metrology Applications Part A	1	0-2
MACHT 32420388	Tool and Fixture Design	1	2-0
MACHT 32420390	Fundamentals of Metallurgy	2	4-0

# Machine Tooling Technics

## A Two Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MACHT 32420322	Machine Tool 1	4	2-6
MACHT 32420323	Machine Tool 2	4	2-6
MACHT 32420346	Intro to CNC - G-code Programming	2	2-2
MACHT 32420351	Elements of Basic Metrology	2	4-0
COMM 31801356	Communications 1	1	2-0
MATH 31804381	Machine Tool Math 1	2	4-0
<b>Second Semester</b>			
MACHT 32420324	Machine Tool 3	4	2-6
MACHT 32420325	Machine Tool 4	4	2-6
MACHT 32420337	Manufacturing w/Solid Modeling-2D	2	4-0
MACHT 32420348	Applied CNC-Conversational and Setup	2	2-2
MACHT 32420352	Intermediate Metrology Applications Part A	1	0-2
MACHT 32420388	Tool and Fixture Design	1	2-0
MACHT 32420390	Fundamentals of Metallurgy	2	4-0
MATH 31804382	Machine Tool Math 2	1	2-0
<b>Third Semester</b>			
MACHT 32420326	Machine Tool 5	4	2-6
MACHT 32420327	Machine Tool 6	5	2-8
MACHT 32420336	Manufacturing w/Solid Modeling 3D	2	4-0
MACHT 32420389	Applied CNC - Intermediate Operations	2	1-3
MACHT 32420394	Tool Making Theory 1	2	4-0
PHYSICS 31806363	Science 1	2	2-2
<b>Fourth Semester</b>			
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
MACHT 32420328	Machine Tool 7	4	2-6
MACHT 32420329	Machine Tool 8	5	2-8
MACHT 32420370	Manufacturing w/Solid Modeling-Advanced	1	1-1
MACHT 32420391	Applied CNC - Advanced Operations	1	0-2
MACHT 32420393	Job Orientation - Machine Tooling Technics Program	1	2-0
MACHT 32420395	Tool Making Theory 2	2	4-0
WELD 32442313	Related Welding	1	0-2

# Machinist Apprenticeship

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MACHT 50420711	Mathematics for the Machine Trades	1	1.61-0.38
MACHT 50420715	Mechanical Hardware & Hand Tools for Machine Trades Apprentices	1	1.61-0.38
<b>Second Semester</b>			
MACHT 50420713	Precision Measurement for Machine Tool Trade Apprentices	1	1.61-0.38
MACHT 50420714	Engineering Drawings for Machine Tool Trades Apprentices	1	1.61-0.38
<b>Third Semester</b>			
MACHT 50420710	Safety for Machine Tool Trade Apprentices	0	0.33-0.16
MACHT 50420720	Cut-Off Machines for Machine Trades Apprentices	0	0.33-0.16
MACHT 50420721	Metallurgy & Materials for Machine Trades	1	1.61-0.38
MACHT 50420732	Machine Tool Apprenticeship Greening Competencies - SAGE Project	0	0.72-0.27
<b>Fourth Semester</b>			
MACHT 50420716	Turning Machines for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420717	Milling Machines for Machine Trades Apprentices	0	0.5-0.27
MACHT 50420718	Drilling Machines for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420719	Grinding Machines for Machine Trades Apprentices	0	0.72-0.27
<b>Fifth Semester</b>			
MACHT 50420725	Basic CAD/CAM for Machine Trades Apprentices	1	1.61-0.38
MACHT 50420726	Jig and Fixture Design for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420727	Geometric Design and Tolerancing for Machine Trades Apprentices	0	0.72-0.27
<b>Sixth Semester</b>			
MACHT 50420724	CNC Programming and Planning for Machine Trades Apprentices	1	1.61-0.38
MACHT 50420733	CNC Operations for Machine Tool Trades Apprentices	1	1.61-0.38



# Maintenance Mechanic/Millwright Apprentice

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MILLWRGT 50423710	Math and Physics for MMMP Trades (C1)	1	1-1
MILLWRGT 50423711	Print Reading for MMMP Trades (C-2)	1	1-1
<b>Second Semester</b>			
MILLWRGT 50423724	Preventative and Predictive Maintenance for MMMP Trades (C-15)	1	1-1
MILLWRGT 50423726	Green Awareness for the MMMP Trades (C-17)	1	1-1
<b>Third Semester</b>			
MILLWRGT 50423730	Bearings for the MMMP Trades (M-1)	0	0.66-0.66
MILLWRGT 50423734	Gears, Gearboxes, Gear Assemblies for the MMMP (M-5)	0	0.66-0.66
IND MECH 50462101	Introduction to Heat Treating Part A	0	0-0.66
<b>Fourth Semester</b>			
MILLWRGT 50423733	Belts, Sheaves, Pulleys, and Drives for the MMMP Trades (M-4)	0	0.66-0.66
MILLWRGT 50423734	Gears, Gearboxes, Gear Assemblies for the MMMP (M-5)	0	0.66-0.66
MILLWRGT 50423735	Mechanical Power Transmission for the MMMP Trades (M-6)	0	0.66-0.66
<b>Fifth Semester</b>			
MILLWRGT 50423736	Conveyors for the MMMP Trades (M-7)	0	0.22-0.22
MILLWRGT 50423737	Equipment Installation for the MMMP Trades (M-8)	0	0.66-0.66
MILLWRGT 50423738	Sheet Metal and Structural Steel Fabrication for the MMMP Trades (M-9)	0	0.66-0.66
IND MECH 50462102	Introduction to Heat Treating Part B	0	0-0.66
<b>Sixth Semester</b>			
MILLWRGT 50423712	Fasteners for MMMP Trades (C-3)	0	0.22-0.22
MILLWRGT 50423713	Precision Measurements for MMMP Trades (C-4)	0	0.33-0.33
MILLWRGT 50423714	Rigging for MMMP Trades (C-5)	1	0.88-0.88
MILLWRGT 50423715	Welding for MMMP Trades (C-6)	0	0.27-0.27
MILLWRGT 50423716	Metallurgy for MMMP Trades (C-7)	0	0.27-0.27
<b>Seventh Semester</b>			
MILLWRGT 50423717	Hydraulics for MMMP Trades (C-8)	0	0.55-0.55
MILLWRGT 50423718	Pneumatics & Compressed Air for MMMP Trades (C-9)	0	0.55-0.55
MILLWRGT 50423719	Vacuum Systems for MMMP Trades (C-10)	0	0.55-0.55
IND MECH 50462103	Introduction to Heat Treating Part C	0	0-0.66

## Madison Area Technical College

### **Eighth Semester**

MILLWRGT 50423720	Pipefitting and Valves for MMMP Trades (C-11)	0	0.66-0.66
MILLWRGT 50423722	Packings, Seals, Gaskets for MMMP Trades (C-13)	0	0.44-0.44
MILLWRGT 50423723	MSDS & Adhesives and Sealants for MMMP Trades (C-14)	0	0.22-0.22
MILLWRGT 50423732	Pumps for the MMMP Trades (M-3)	0	0.66-0.66

# Maintenance Technician Apprentice

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
<b>Second Semester</b>			
ELEC-IND 50413752	Codes for Industrial Electricians 1: Introduction to the NEC	0	1-0
ELEC-IND 50413753	Codes for Industrial Electricians 2: OCPD and Electrical Device Installations	0	1-0
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
IND MECH 10462331	DCAC 3 Theory	1	0-2
<b>Third Semester</b>			
ELEC-IND 50413754	Codes for Industrial Electricians 3: Article 250 Part A	0	1-0
ELEC-IND 50413755	Codes for Industrial Electricians 4: Article 250 Part B	0	1-0
ELEC-IND 50413756	Codes for Industrial Electricians 5: Article 300, Cords/Cables, and Hazardous Installations	0	1-0
ELEC-IND 50413757	Codes for Industrial Electricians 6: Conductors, Raceways and Data/Communication Cables	0	1-0
<b>Fourth Semester</b>			
ELEC 50413758	Codes for Industrial Electricians 7: Motors and Generators	0	1-0
ELEC 50413759	Codes for Industrial Electricians 8: Transformers	0	1-0
ELEC-IND 50413761	Industrial Electrician Motors & Generators	1	1-1
<b>Fifth Semester</b>			
ELEC-IND 50413760	Industrial Electrician Transformers	1	1-1
EMTEC 10620100	Introduction to PLCs	1	0-2
<b>Sixth Semester</b>			
ELEC-IND 50413765	Power Systems & Variable Speed Drives for Industrial Electricians	2	2-2
<b>Seventh Semester</b>			
IND MECH 10462100	Safety for Industry	1	0-2
MECTEC 10606201	Interpreting Engineering Drawings Part A	1	0-2
<b>Eighth Semester</b>			
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462107	Mechanisms for Industry 2	1	0-2

## Madison Area Technical College

<b>Ninth Semester</b>			
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462109	Maintenance Management Part A	1	0-2
<b>Tenth Semester</b>			
IND MECH 10462105	Fluid Power 2 for Industry	2	0-4

## Management Trainee

### A Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
BUSADM 10102134	Introduction to Business	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
<b>Second Semester</b>			
ACCTG 10101118	Management Accounting	4	4-0
BUSADM 10102135	Project Management - Fundamentals	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Third Semester</b>			
BUSADM 10102114	Business Communication	3	3-0
BUSADM 10102143	Management Techniques	3	3-0
MKTG 10104102	Marketing Principles	3	3-0

# Marketing

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ENGLISH 10801195	Written Communication	3	3-0
COMPSONT 10103133	Excel Beginning	1	0.27-1.5
COMPSONT 10103137	Word Beginning	1	0.27-1.5
COMPSONT 10103143	PowerPoint	1	0.27-1.5
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104104	Selling Principles	3	3-0
MKTG 10104113	Leadership Ethics in the Digital Age	3	3-0
<b>Second Semester</b>			
MATH 10804144	Math of Finance	3	3-0
MKTG 10104112	Marketing Design Strategies	3	3-0
MKTG 10104114	Social Media Marketing	3	3-0
MKTG 10104125	Advertising Principles	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Third Semester</b>			
MKTG 10104126	Introduction to Public Relations	3	3-0
MKTG 10104164	Marketing Digital Design	3	3-0
MKTG 10104169	Digital Marketing	3	3-0
MKTG 10104162	Advanced Social and Mobile Marketing	3	3-0
	Marketing Approved Elective (See list below)	3	
<b>Fourth Semester</b>			
ECON 10809195	Economics	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
MKTG 10104103	Marketing Research	3	3-0
MKTG 10104115	Capstone Campaign	3	3-0
MKTG 10104180	Global Marketing	3	3-0
MKTG 10104188	Marketing Portfolio	1	0-2
<b>Marketing Approved Electives (3 credits in Third Semester)</b>			
MKTG 10104165	Marketing Internship	3	1-0
MKTG 10104187	Global Studies Seminar	3	3-0
MKTG 10104802	Honors - Marketing	3	0-0
MKTG 10104111	Digital Innovations	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
BUSADM 10102134	Introduction to Business	3	3-0

# Marketing Essentials for the Business Professional Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>COURSES</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
ADMINPRF 10106164	Customer Contact Skills	2	2-0
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106108	Proofreading And Editing	3	2-2
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104114	Social Media Principles	3	3-0

## Marketing-Social Media

A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104114	Social Media Marketing	3	3-0
MKTG 10104162	Advanced Social and Mobile Marketing	3	3-0
MKTG 10104164	Marketing Digital Design	3	3-0
MKTG 10104169	Digital Marketing	3	3-0



# Mechanical Design Technology

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MECTEC 10606100	Engineering Technology Communications	3	1-4
MECTEC 10606101	Engineering Technology Fundamentals	2	1-2
MECTEC 10606120	2-D CAD (Computer Aided Drafting)	1	1-0
MECTEC 10606130	SolidWorks 1	1	1-0
MECTEC 10606131	SolidWorks 2	2	1-2
MECTEC 10606160	Fundamentals of Manufacturing/Engineering Materials	2	1-2
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804114	College Technical Math 1B	2	2-0
<b>Second Semester</b>			
MECTEC 10606132	SolidWorks 3	2	1-2
MECTEC 10606140	Dimensioning Practices	1	1-0
MECTEC 10606141	Geometric Dimensioning & Tolerancing	1	1-0
MECTEC 10606155	Statics And Mechanics	3	2-2
MECTEC 10606161	Manufacturing Processes	2	1-2
MECTEC 10606170	Strength Of Materials	3	2-2
MATH 10804116	College Technical Math 2	4	4-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Third Semester (Summer)</b>			
MECTEC 10606193	Career Development - Mechanical Design Program	1	1-0
<b>Fourth Semester</b>			
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
MECTEC 10606104	Engineering Technology Practices	3	1-4
MECTEC 10606116	Machine Design	3	2-2
MECTEC 10606125	Plastics for Mechanical Design	3	2-2
MECTEC 10606163	Engineering Technology Project Management	2	1-2
MECTEC 10606164	Quality Systems	2	1-2
EMTEC 10620100	Introduction to PLCs	1	0-2
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
<b>Fifth Semester</b>			
MECTEC 10606112	Tool Design Technology	3	1-4
MECTEC 10606150	Rapid Prototyping	2	1-2
MECTEC 10606186	Engineering Technology Applications	3	0-6
MECTEC 10606188	Mechanical Design Technology Field Study Experience	1	0-2
ENGLISH 10801197	Technical Reporting	3	3-0
PHYSICS 10806154	General Physics 1	4	3-2

# Medical Administrative Specialist

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ADMINPRF 10106100	Mindset for Success	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106108	Proofreading And Editing	3	2-2
ADMINPRF 10106139	Keyboard Skillbuilding	1	0.27-1.5
MEDADMIN 10160178	Medical Language for the Business Professional 1	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
COMPSoft 10103165	Outlook	1	0.27-1.5
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	2	2-0
MEDADMIN 10160165	Medical Administrative Procedures	3	1-4
MEDADMIN 10160179	Medical Language for the Business Professional 2	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
<b>Third Semester</b>			
ADMINPRF 10106106	Business Writing and Research	3	2-2
ADMINPRF 10106190	Professional Development	1	0.5-1
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
ADMINPRF 10106240	Business Information Management	3	1-4
MEDADMIN 10160166	Healthcare Documentation Techniques and Procedures	3	2-2
MEDADMIN 10160191	Introduction to Healthcare Documentation	2	0.5-3
<b>Fourth Semester</b>			
COMPSoft 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106126	Software Capstone	3	1-4
MEDADMIN 10160177	Specialized Insurance Claims	3	2-2
MEDADMIN 10160199	Internship - Medical Administrative Specialist	1	0-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

## Medical Assistant

A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MASST 31509301	Medical Asst Admin Procedures	2	2-2
MASST 31509302	Human Body in Health & Disease	3	6-0
MASST 31509303	Medical Asst Lab Procedures 1	2	2-2
MASST 31509304	Medical Asst Clin Procedures 1	4	4-4
FOUNHLTH 10501101	Medical Terminology	3	3-0
FOUNHLTH 10501107	Digital Literacy for Healthcare	2	1-2
<b>Second Semester</b>			
FOUNHLTH 31501308	Pharmacology for Allied Health	2	4-0
MASST 31509305	Med Asst Lab Procedures 2	2	2-2
MASST 31509306	Med Asst Clin Procedures 2	3	2-4
MASST 31509307	Medical Office Insurance & Finance	2	4-0
MASST 31509309	Medical Law, Ethics and Professionalism	2	4-0
MASST 31509310	Medical Assistant Practicum	3	2-0
ENGLISH 10801195	Written Communication	3	3-0

## Medical Billing

A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ADMINPRF 10106100	Mindset for Success	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106139	Keyboard Skillbuilding	1	0.27-1.5
MEDADMIN 10160178	Medical Language for the Business Professional 1	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
COMPSOFT 10103165	Outlook	1	0.27-1.5
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	2	2-0
MEDADMIN 10160165	Medical Administrative Procedures	3	1-4
MEDADMIN 10160177	Specialized Insurance Claims	3	2-2
MEDADMIN 10160179	Medical Language for the Business Professional 2	3	2-2

# Medical Coding Specialist

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Pre-Program Courses</b>			
FOUNHLTH 10501153	Body Structure & Function	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
COMPSOFT 10103121	Windows 10	1	0.27-1.5
FOUNHLTH 10501107	Digital Literacy for Healthcare	2	1-2
<b>Core Program Courses</b>			
<b>Cluster 1</b>			
MEDREC 10530162	Foundations of HIM	3	2-2
MEDREC 10530182	Human Disease for Health Professions	3	3-0
MEDREC 10530197	ICD Diagnosis Coding	3	2-2
<b>Cluster 2</b>			
MEDREC 10530184	CPT Coding	3	2-2
MEDREC 10530159	Healthcare Revenue Management	3	2-2
MEDREC 10530189	Management of Coding Services	1	1-0
MEDREC 10530199	ICD Procedure Coding	2	1-2
<b>Cluster 3</b>			
MEDREC 10530168	Advanced ICD Coding	3	2-2
MEDREC 10530187	Advanced CPT Coding	3	2-2
MEDREC 10530188	Certification & Professional Development	2	1-2

# Medical Laboratory Technician

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
LABASST 10513110	Basic Lab Skills	1	0-2
LABASST 10513111	Phlebotomy	2	3-0
LABASST 10513111	Phlebotomy	2	0-4
LABASST 10513113	QA Lab Math	1	1-0
LABASST 10513114	Urinalysis	2	0-4
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
LABASST 10513115	Basic Immunology Concepts	2	3-0
LABASST 10513120	Basic Hematology	3	0.5-1
LABASST 10513121	Coagulation	1	0-2
LABASST 10513109	Blood Bank	4	2-4
SPEECH 10801198	Speech	3	3-0
<i>Choose from Microbiology or General Microbiology:</i>			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
<b>Third Semester (summer)</b>			
SOC 10809197	Contemporary Amer Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Fourth Semester</b>			
LABASST 10513130	Advanced Hematology	2	0-4
LABASST 10513116	Clinical Chemistry	4	2-4
LABASST 10513133	Clinical Microbiology	4	0-8
LABASST 10513170	Introduction to Molecular Diagnostics	2	2-0
	Elective	2	
<b>Fifth Semester</b>			
LABASST 10513140	Advanced Microbiology	2	2-0
LABASST 10513141	Pre-Clinical Experience	2	0-0
LABASST 10513151	Clinical Experience 1	3	0-6
LABASST 10513152	Clinical Experience 2	4	0-8
LABASST 10513153	Capstone Project	1	0-2

# Medical Laboratory Technician

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<i>Pre-Program</i>			
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
SPEECH 10801198	Speech	3	3-0
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
<i>Choose from Microbiology or General Microbiology:</i>			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
	Elective	2	
<i>First Semester (Summer)</i>			
LABASST 10513110	Basic Lab Skills	1	0-2
LABASST 10513113	QA Lab Math	1	1-0
<i>Second Semester (Fall)</i>			
LABASST 10513111	Phlebotomy	2	3-0
LABASST 10513111	Phlebotomy	2	0-4
LABASST 10513120	Basic Hematology	3	0.5-1
LABASST 10513114	Urinalysis	2	0-4
LABASST 10513133	Clinical Microbiology	4	0-8
LABASST 10513115	Basic Immunology Concepts	2	3-0
<i>Third Semester (Winterim)</i>			
LABASST 10513121	Coagulation	1	0-2
<i>Fourth Semester (Spring)</i>			
LABASST 10513109	Blood Bank	4	2-4
LABASST 10513116	Clinical Chemistry	4	2-4
LABASST 10513130	Advanced Hematology	2	0-4
LABASST 10513140	Advanced Microbiology	2	2-0
LABASST 10513170	Introduction to Molecular Diagnostics	2	2-0
LABASST 10513141	Pre-Clinical Experience	2	0-0
<i>Fifth Semester (Summer)</i>			
LABASST 10513151	Clinical Experience 1	3	0-6
LABASST 10513152	Clinical Experience 2	4	0-8
LABASST 10513153	Capstone Project	1	0-2

# Metal Fabrication

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
INSAFE 10449100	Safety for Industry	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MACHT 32420349	Basic Metrology (Part A)	1	2-0
WELD 31442332	Oxy-Fuel Cutting 1	1	1-1
WELD 31442318	Gas Tungsten Arc Welding 1 (GTAW/TIG)	2	0-4
WELD 31442323	Basic Gas Metal Arc Welding (GMAW/MIG)	2	2-2
MTLFAB 31457301	Fabrication 1	2	1-3
MTLFAB 31457302	Fabrication 2	2	1-3
MTLFAB 31457305	CNC Operation	2	1-3
MATH 31804379	Vocational Math 1	1	2-0
<b>Second Semester</b>			
WELD 31442326	Flux Cored & Advanced Gas Metal Arc Welding (FCAW/GMAW)	2	1-3
WELD 31442328	Gas Tungsten Arc Welding 2 (GTAW/TIG)	2	1-3
WELD 31442390	Fundamentals of Metallurgy	2	4-0
MTLFAB 31457303	Fabrication 3	2	1-3
MTLFAB 31457304	Fabrication 4	2	1-3
MTLFAB 31457306	CNC Programming	2	1-3
MTLFAB 31457307	Jig and Fixture Development	2	1-3
MTLFAB 31457308	Metal Fabrication Occupational Development	1	2-0



## Microsoft Office

### A Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
COMPSOFT 10103165	Outlook	1	0.27-1.5
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
ADMINPRF 10106240	Business Information Management	3	1-4

## Microsoft Office Essentials Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Microsoft Office Essentials Certificate</b>			
COMPSOFT 10103121	Windows 10	1	0.27-1.5
COMPSOFT 10103165	Outlook	1	0.27-1.5
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
COMPSOFT 10103145	Access	1	0.27-1.5
COMPSOFT 10103143	PowerPoint	1	0.27-1.5

## Molecular Biology Fundamentals Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Term Course</b>			
BIOTECH 10007124	Molecular Biology 1	3	0-6
<i>Complete one of the following courses:</i>			
BIOLOGY 20806219	Biology for Innovators	1	0-2
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	0-6
<b>Second Term Courses</b>			
BIOTECH 10007125	Research Methods in Molecular Biology	3	0-6

## Nursing Assistant

A Less Than One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Hrs/Week	
		Credits/Units	LEC-LAB
<b>First, Second or Summer Semester</b>			
NRSAD 30543300	Nursing Assistant	3	2.77-1.66

# Occupational Therapy Assistant

## An Associate in Applied Arts Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Pre-Occupational Therapy Assistant Courses</b>			
<i>The following courses must be completed prior to acceptance into Occupational Therapy courses:</i>			
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
<b>First Semester</b>			
OTASST 10514171	Introduction to Occupational Therapy	3	2-2
OTASST 10514172	Medical and Psychosocial Conditions	3	2-2
OTASST 10514173	Activity Analysis and Application	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
<b>Second Semester</b>			
OTASST 10514174	OT Performance Skills	4	0-8
OTASST 10514175	Psychosocial Practice	3	1-4
OTASST 10514176	OT Theory and Practice	3	1-4
OTASST 10514178	Geriatric Practice	3	1-4
PSYCH 20809237	Abnormal Psych	3	3-0
SPEECH 10801198	Speech	3	3-0
<b>Summer Semester</b>			
PSYCH 20809233	Developmental Psychology	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
<b>Third Semester</b>			
OTASST 10514179	Community Practice	2	0-4
OTASST 10514189	OT Phys Rehab Practice	4	1-6
OTASST 10514190	OT Pediatric Practice	4	0-8
OTASST 10514184	OTA Fieldwork 1	2	1-2
	Elective	3	
<b>Fourth Semester</b>			
OTASST 10514185	OT Practice and Management	2	1-2
OTASST 10514186	OTA Fieldwork IIA	5	0-0
OTASST 10514187	OTA Fieldwork IIB	5	0-0

## Office Assistant

A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ADMINPRF 10106100	Mindset for Success	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106139	Keyboard Skillbuilding	1	0.27-1.5
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
<b>Second Semester</b>			
COMPSOFT 10103165	Outlook	1	0.27-1.5
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106108	Proofreading And Editing	3	2-2
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106121	Office Technology and Procedures	3	2-2
ADMINPRF 10106164	Customer Contact Skills	2	2-0
ADMINPRF 10106240	Business Information Management	3	1-4

# Office Management

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ADMINPRF 10106100	Mindset for Success	3	3-0
BUSADM 10102134	Introduction to Business	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	2	2-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
<b>Second Semester</b>			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
COMPSOFT 10103165	Outlook	1	0.27-1.5
ADMINPRF 10106108	Proofreading And Editing	3	2-2
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
BUSADM 10102143	Management Techniques	3	3-0
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
<b>Third Semester</b>			
ACCTG 10101139	QuickBooks-Beginning	1	0.5-1
ADMINPRF 10106172	Administrative Office Management	3	2-2
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106106	Business Writing and Research	3	2-2
ADMINPRF 10106190	Professional Development	1	0.5-1
ADMINPRF 10106240	Business Information Management	3	1-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Fourth Semester</b>			
ACCTG 10101154	Payroll Accounting	1	0.5-1
BUSADM 10102135	Project Management - Fundamentals	3	3-0
ADMINPRF 10106199	Internship - Office Management	1	0-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

# Optometric Technician

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
OPTOMET 31516325	Optical Dispensing 1	3	3-3
OPTOMET 31516301	Ophthalmic Pre-Testing	3	3-3
OPTOMET 31516305	Basic Optical Concepts	3	3-3
OPTOMET 31516315	Ocular Anatomy	2	3-1
OPTOMET 31516339	Human Relations - Optometric Technician Program	1	2-0
<b>Second Semester</b>			
OPTOMET 31516326	Optical Dispensing 2	2	2-2
OPTOMET 31516330	Contact Lenses	3	3-3
OPTOMET 31516335	Ophthalmic Specialty Testing	3	4-2
OPTOMET 31516340	Patient Relations/Pract Manage	2	4-0
OPTOMET 31516345	Preclinical	2	0-4
OPTOMET 31516350	Clinical Experience	3	0-0



# Optometric Technician

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Online First Semester</b>			
OPTOMET 31516315	Ocular Anatomy	2	3-1
OPTOMET 31516301	Ophthalmic Pre-Testing	3	3-3
OPTOMET 31516339	Human Relations - Optometric Technician Program	1	2-0
<b>Online Second Semester</b>			
OPTOMET 31516305	Basic Optical Concepts	3	3-3
OPTOMET 31516325	Optical Dispensing 1	3	3-3
<b>Online Third Semester</b>			
OPTOMET 31516326	Optical Dispensing 2	2	2-2
OPTOMET 31516335	Ophthalmic Specialty Testing	3	4-2
OPTOMET 31516346	Preclinic A	1	2-0
<b>Online Fourth Semester</b>			
OPTOMET 31516330	Contact Lenses	3	3-3
OPTOMET 31516340	Patient Relations/Pract Manage	2	4-0
OPTOMET 31516347	Preclinic B	1	2-0

**Paramedic**  
 A Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
EMS 10531911	EMS Fundamentals	2	2-0
EMS 10531912	Paramedic Medical Principles	4	4-0
EMS 10531913	Adv Patient Asses Principles	3	2-2
EMS 10531914	Adv Pre-Hospital Pharmacology	3	2-2
EMS 10531915	Paramedic Respiratory Management	2	1-2
EMS 10531916	Paramedic Cardiology	4	3-2
EMS 10531925	Paramedic Clinical 1	1	0-0
EMS 10531926	Paramedic Clinical 2	1	0-0
<b>Second Semester</b>			
EMS 10531918	Advanced Emergency Resuscitation	1	0-2
EMS 10531919	Paramedic Medical Emergencies	4	4-0
EMS 10531920	Paramedic Trauma	3	2-2
EMS 10531921	Special Patient Populations	3	2-2
EMS 10531922	EMS Operations	1	1-0
EMS 10531927	Paramedic Clinical 3	1	0-0
EMS 10531929	Paramedic Clinical 4	1	0-0
<b>Third Semester - Summer</b>			
EMS 10531923	Paramedic Capstone	1	0-2
EMS 10531928	Paramedic Field Internship	3	0-0

**Paramedic Technician**  
 An Associate in Applied Science Degree

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
EMS 10531911	EMS Fundamentals	2	2-0
EMS 10531912	Paramedic Medical Principles	4	4-0
EMS 10531913	Adv Patient Asses Principles	3	2-2
EMS 10531914	Adv Pre-Hospital Pharmacology	3	2-2
EMS 10531915	Paramedic Respiratory Management	2	1-2
EMS 10531916	Paramedic Cardiology	4	3-2
EMS 10531925	Paramedic Clinical 1	1	0-0
EMS 10531926	Paramedic Clinical 2	1	0-0
<b>Second Semester</b>			
EMS 10531918	Advanced Emergency Resuscitation	1	0-2
EMS 10531919	Paramedic Medical Emergencies	4	4-0
EMS 10531920	Paramedic Trauma	3	2-2
EMS 10531921	Special Patient Populations	3	2-2
EMS 10531922	EMS Operations	1	1-0
EMS 10531927	Paramedic Clinical 3	1	0-0
EMS 10531929	Paramedic Clinical 4	1	0-0
<b>Third Semester- Summer</b>			
EMS 10531923	Paramedic Capstone	1	0-2
EMS 10531928	Paramedic Field Internship	3	0-0
<b>Fourth Semester</b>			
ENGLISH 10801195	Written Communication	3	3-0
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
POLISCI 10809122	Intro to Amer Government	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Fifth Semester</b>			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
MATH 10804134	Mathematical Reasoning	3	2-2
SOC 10809172	Introduction to Diversity Studies	3	3-0

# Phlebotomist/Specimen Processor

A Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>COURSES</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
LABASST 10513110	Basic Lab Skills	1	0-2
LABASST 10513111	Phlebotomy	2	3-0
LABASST 10513111	Phlebotomy	2	0-4

# Photography

## An Associate in Applied Arts Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
PHOTO 10203105	Photo Composition	2	2-0
PHOTO 10203107	Studio Photography 1	3	0-6
PHOTO 10203120	Lighting Technique	2	0-4
VICOM 10206109	Intro to Electronic Design	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Elective	3	
<b>Second Semester</b>			
PHOTO 10203108	Studio Photography 2	3	0-6
PHOTO 10203141	Color Photography 1	3	0-6
PHOTO 10203173	Photojournalism	2	0-4
VICOM 10206130	Video Production	3	0-6
COMM 10801196	Oral/Interpersonal Communication	3	3-0
SOC 10809197	Contemporary Amer Society	3	3-0
<b>Third Semester</b>			
PHOTO 10203121	Commercial Photography	3	0-6
PHOTO 10203124	Portrait Photography	2	0-4
PHOTO 10203142	Color Photography 2	3	0-6
PHOTO 10203134	Electronic Imaging	3	0-6
MATH 10804107	College Mathematics	3	2-2
<b>Fourth Semester</b>			
PHOTO 10203109	Studio Photography 3	3	1-4
PHOTO 10203125	Business Of Photography	2	2-0
PHOTO 10203126	Advanced Digital Studio Portrait	2	0-4
PHOTO 10203176	Photographic Communication	2	0-4
PHOTO 10203185	Portfolio Preparation - Photography Program	2	0-4
PHOTO 10203174	Photography on Location	3	0-6
<b>Recommended Electives</b>			
PHOTO 10203199	Photography Internship	1	0-0
PHOTO 10203129	Professional Nature and Conservation Photography	2	1-2
ART 20815201	Basic Design	3	0-6

# Plumbing Apprenticeship (ABC)

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
PLUMBNG 50427751	Sanitary Drains 1	2	3.6-0.4
<b>Second Semester</b>			
PLUMBNG 50427752	Vents and Venting Systems	2	3.6-0.4
<b>Third Semester</b>			
PLUMBNG 50427753	Water Distribution 1	2	3.6-0.4
<b>Fourth Semester</b>			
PLUMBNG 50427754	Water Distribution 2	2	3.6-0.4
<b>Fifth Semester</b>			
PLUMBNG 50427755	Sanitary Drains 2	2	3.6-0.4
<b>Sixth Semester</b>			
PLUMBNG 50427756	Private On-Site Wastewater Treatment Systems (POWTS)	2	3.6-0.4
<b>Seventh Semester</b>			
PLUMBNG 50427757	Green Plumbing Applications	2	3.6-0.4
<i>Eighth Semester</i>			
PLUMBNG 50427758	Plumbing Advanced Topics/TSA	2	3.6-0.4

## Plumbing Apprenticeship (JAC)

### Apprenticeship Completion

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
PLUMBNG 50427751	Sanitary Drains 1	2	3.6-0.4
<b>Second Semester</b>			
PLUMBNG 50427752	Vents and Venting Systems	2	3.6-0.4
<b>Third Semester</b>			
PLUMBNG 50427753	Water Distribution 1	2	3.6-0.4
<b>Fourth Semester</b>			
PLUMBNG 50427754	Water Distribution 2	2	3.6-0.4
<b>Fifth Semester</b>			
PLUMBNG 50427755	Sanitary Drains 2	2	3.6-0.4
<b>Sixth Semester</b>			
PLUMBNG 50427756	Private On-Site Wastewater Treatment Systems (POWTS)	2	3.6-0.4
<b>Seventh Semester</b>			
PLUMBNG 50427757	Green Plumbing Applications	2	3.6-0.4
<b>Eighth Semester</b>			
PLUMBNG 50427758	Plumbing Advanced Topics/TSA	2	3.6-0.4

## Practical Nursing

### A One Year Technical Diploma

# Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<i>Pre-Program Courses</i>			
NRSAD 30543300	Nursing Assistant	3	2.77-1.66
NRSAD 31543356	Growth and Development	2	4-0
FOUNHLTH 10501153	Body Structure & Function	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
SPEECH 10801198	Speech	3	3-0
<i>First Semester</i>			
NRSAD 31543301	Nursing Fundamentals	2	4-0
NRSAD 31543302	Nursing Skills	3	0-6
NRSAD 31543303	Nursing Pharmacology	2	4-0
NRSAD 31543304	Nursing: Intro to Clinical Practice	2	0-0
<i>Second Semester</i>			
NRSAD 31543305	Nursing Health Alterations	3	6-0
NRSAD 31543306	Nursing Health Promotion	3	6-0
NRSAD 31543307	Nursing: Clinical Care Across the Lifespan	2	0-0
NRSAD 31543308	Nursing: Intro to Clinical Care Management	2	0-0



# Project Management Certificate for the Business Professional Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Courses</b>			
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
COMPSTFT 10103186	MS (Microsoft) Project	2	0.5-3
ADMINPRF 10106164	Customer Contact Skills	2	2-0
BUSADM 10102135	Project Management - Fundamentals	3	3-0
<b>Plus, choose one of the following courses:</b>			
BUSADM 10102134	Introduction to Business	3	3-0
BUSADM 10102131	Project Management and Sustainable Change	3	3-0
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0

# Quality Control Technology

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MECTEC 10606100	Engineering Technology Communications	3	1-4
MECTEC 10606120	2-D CAD (Computer Aided Drafting)	1	1-0
MECTEC 10606130	SolidWorks 1	1	1-0
MECTEC 10606131	SolidWorks 2	2	1-2
MECTEC 10606160	Fundamentals of Manufacturing/Engineering Materials	2	1-2
MECTEC 10606164	Quality Systems	2	1-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MACHT 32420351	Elements of Basic Metrology	2	4-0
<b>Second Semester</b>			
MACHT 10420354	Advanced Metrology	3	0-6
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
MECTEC 10606140	Dimensioning Practices	1	1-0
MECTEC 10606141	Geometric Dimensioning & Tolerancing	1	1-0
MECTEC 10606161	Manufacturing Processes	2	1-2
MECTEC 10606165	Quality Engineering Fundamentals	3	1-4
MACHT 32420352	Intermediate Metrology Applications Part A	1	0-2
MACHT 10420353	Intermediate Metrology Applications Part B	1	0-2

# Radiography

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Pre-Radiography Courses</b>			
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804107	College Mathematics	3	2-2
<b>First Semester</b>			
RADTEC 10526149	Radiographic Procedures 1	5	5-0
RADTEC 10526158	Introduction to Radiography	3	3-0
RADTEC 10526159	Radiographic Imaging	3	3-0
RADTEC 10526168	Radiography Clinical 1	2	0-0
<b>Second Semester</b>			
RADTEC 10526230	Advanced Radiographic Imaging	2	2-0
RADTEC 10526191	Radiographic Procedures 2	5	5-0
RADTEC 10526192	Radiography Clinical 2	3	0-0
<b>Third Semester (Summer)</b>			
RADTEC 10526193	Radiography Clinical 3	3	0-0
<b>Fourth Semester</b>			
RADTEC 10526194	Imaging Equipment Operation	3	3-0
RADTEC 10526195	Radiographic Image Analysis	2	2-0
RADTEC 10526231	Imaging Modalities	2	2-0
RADTEC 10526199	Radiography Clinical 4	3	0-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
<b>Fifth Semester</b>			
RADTEC 10526189	Radiographic Pathology	1	1-0
RADTEC 10526190	Radiography Clinical 5	2	0-0
RADTEC 10526197	Radiation Protection & Biology	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
<b>Sixth Semester (Summer)</b>			
RADTEC 10526174	ARRT Certification Seminar	2	0-0
RADTEC 10526198	Radiography Clinical 6	2	0-0

## Real Estate Sales Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
RLEST 10194182	Real Estate Law and Sales	4	4-0
RLEST 10194185	Real Estate Broker Management	4	4-0
<b>Second Semester</b>			
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104104	Selling Principles	3	3-0
MKTG 10104114	Social Media Marketing	3	3-0
<b>Third Semester</b>			
RLEST 10194195	Real Estate Internship	3	1-0

# Renewable Energy Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses (Specific)</b>			
<i>Completion of both of the listed courses is required.</i>			
PHYSICS 20806291	Introduction to Renewable Energy/Renewable Energy Technology	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology/Solar Energy Technology	3	3-0
<b>Required Courses (Choices)</b>			
<i>Completion of 3 credits from the listed courses is required.</i>			
PHYSICS 20806287	Special Topics: Energy Storage	2	1.5-1
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
SOCSCI 20809269	Energy And Society	3	3-0
<i>Honors courses and Independent Studies courses may also be available. Consult the Program Director for more information.</i>			
NATSCI 20806807	Honors-Renewable Energy (2cr)	2	0-0
NATSCI 20806907	Honors-Renewable Energy (3cr)	3	0-0
NATSCI 20806297	Independent Study - Science (1 cr)	1	1-0
NATSCI 20806298	Independent Study - Science (2 cr)	2	2-0
NATSCI 20806299	Independent Study - Science (3 cr)	3	3-0
<i>Additional previously taken Renewable Energy courses may count towards the requirements. Those courses that qualify would automatically be picked up in the specific individual's Degree Progress (Academic Advising) Report.</i>			

# Respiratory Therapy

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Pre-Program Courses</b>			
<i>The following courses should be taken during the petition process, prior to program acceptance.</i>			
ENGLISH 10801195	Written Communication	3	3-0
<i>Choose from General, Organic &amp; Biological Chem or General Chem. General Chemistry is the level of chemistry required to satisfy the requirement for Respiratory Therapy but completing General Organic and Bio Chemistry is highly recommended if you plan to ultimately obtain a Bachelor's degree.</i>			
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 10806134	General Chemistry	4	3-2
<b>First Semester</b>			
RESPC 10515111	Respiratory Survey	3	3-0
RESPC 10515173	Respiratory Pharmacology	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
<b>Second Semester</b>			
<i>Choose from Microbiology or General Microbiology:</i>			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
RESPC 10515171	Respiratory Therapeutics 1	3	2-2
RESPC 10515172	Respiratory Therapeutics 2	3	2-2
RESPC 10515174	Respiratory/Cardiac Physiology	3	3-0
RESPC 10515175	Respiratory Clinical 1	2	0-0
<b>Summer Term</b>			
SPEECH 10801198	Speech	3	3-0
<b>Third Semester</b>			
RESPC 10515176	Respiratory Disease	3	3-0
RESPC 10515112	Respiratory Airway Management	2	1-2
RESPC 10515113	Respiratory Life Support	3	2-2
RESPC 10515178	Respiratory Clinical 2	3	0-0
RESPC 10515179	Respiratory Clinical 3	3	0-0
SOC 10809197	Contemporary Amer Society	3	3-0
<b>Fourth Semester</b>			
RESPC 10515180	Respiratory Neo/Peds Care	2	2-0
RESPC 10515181	Respiratory/Cardio Diagnostics	3	2-2
RESPC 10515182	Respiratory Clinical 4	3	0-0
RESPC 10515183	Respiratory Clinical 5	3	0-0
RESPC 10515184	Neonatal Pediatric Resuscitation (NRP)	1	1-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

## Retail Management Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

<b>Courses</b>		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
FSHNMKTG 10104124	Retail Management	3	3-0
FSHNMKTG 10104118	Store Operations	3	2-2
FSHNMKTG 10104123	Merchandise Plan/Control	3	3-0
FSHNMKTG 10104194	Visual Merchandising	3	2-2

# Risk Management and Insurance

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
BUSADM 10102134	Introduction to Business	3	3-0
INSMGT 10162125	Intro to Property & Casualty Insurance - PreLicensing	3	3-0
INSMGT 10162133	Managing Business Risks	3	3-0
INSMGT 10162135	Fraud Examination & Detection	3	3-0
INSMGT 10162126	Introduction to Loss Investigation (AIC 33)	3	3-0
MATH 10804144	Math of Finance	3	3-0
<b>Second Semester</b>			
MKTG 10104102	Marketing Principles	3	3-0
FINANCE 10114140	Investments	3	3-0
INSMGT 10162131	Intro to Life & Health Insurance	3	3-0
INSMGT 10162116	Cyber Risk Management	3	3-0
INSMGT 10162140	Risk Management and Insurance Internship	2	0-0
ENGLISH 10801195	Written Communication	3	3-0



# Small Business Entrepreneurship

A One Year Technical Diploma

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
SMLBUS 10145105	Operations Management	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
SMLBUS 10145117	Introduction to Entrepreneurship	3	3-0
ADMINPRF 10106164	Customer Contact Skills	2	2-0
MATH 10804123	Math with Business Applications	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
ACCTG 10101106	Accounting Fundamentals	3	3-0
MKTG 10104104	Selling Principles	3	3-0
SMLBUS 10145102	Small Business Development	3	3-0
SMLBUS 10145108	Field Experience	2	1-0
BUSADM 10102143	Management Techniques	3	3-0
	Required Technical Course Selection	3	
<b>Technical Course Selection Options (Complete 3 credits)</b>			
ADMINPRF 10106100	Mindset for Success	3	3-0
SMLBUS 10145122	Studies in Gratitude, Optimism, and Well-Being	3	3-0
SMLBUS 10145131	Mastering Mindfulness: The Power of Living in the Present	1	1-0
SMLBUS 10145132	Mastering Mindfulness: Pathway to Personal Development	1	1-0
SMLBUS 10145133	Mastering Mindfulness: Strength and Self-Reflection	1	1-0
BUSADM 10102160	Business Law 1	3	3-0
MKTG 10104111	Digital Innovations	3	3-0
MKTG 10104114	Social Media Marketing	3	3-0
FSHNMKTG 10104118	Store Operations	3	2-2
MKTG 10104169	Digital Marketing	3	3-0
MKTG 10104180	Global Marketing	3	3-0

# Spanish Language Proficiency Certificate

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

			Hrs/Week
		Credits/Units	LEC-LAB
<b>Language Requirement</b>			
<i>Completion of two courses in Spanish (at the Spanish 3 or higher level) is required. At least 3 credits must be enrolled in at Madison College.</i>			
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
<b>Practicum Requirement</b>			
<i>Completion of both practicum courses is required.</i>			
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
<b>Additional Course Requirement</b>			
<i>Completion of at least one of the listed courses is required.</i>			
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ART 20815210	Art History: Renaissance to Modern	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801223	Peace, Conflict, and Literature: The Arts of the Contact Zone	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
FILM 20810254	History Of World Cinema	3	2-2
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
JOURNAL 20801252	World Issues Journalism	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
MUSIC 20805207	World Music	3	3-0
PHILOS 20809263	East/West World View	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809245	Latin American Politics	3	3-0

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POLISCI 20809246	African Politics	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOCSOCI 20809256	International Perspectives on Gender and Women	3	3-0
	Honors courses may be available. See the certificate advisor for details.	2	

### **Oral Competency Assessment Requirement**

*Completion of the World Language Oral Assessment with a minimum score of 6 within the last three years is required.*

# Steamfitting Service Apprentice

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
HVAC 50401550	HVAC Fundamentals of Refrigeration	2	4-0
HVAC 50401580	HVAC Refrigeration Drawing & Layout	1	2-0
HVAC 50413527	HVAC Electrical-Mechanical Equipment Servicing 1	1	2-0
<b>Second Semester</b>			
HVAC 50401560	Commercial Refrigeration 1	1	3-0
HVAC 50401570	Refrigeration Service Mathematics	1	1.77-0
ELEC 50413528	Electric Controls for Mechanical Equipment 2	1	2-0
PSYCH 50809551	Job Relations	0	1-0
<b>Third Semester</b>			
HVAC 50401561	Commercial Refrigeration 2	1	3-0
ELEC 50413529	Electrical Controls for Mechanical Equipment 3	1	1-1
STEAM 50435558	Pneumatic Controls for HVAC	1	3-0
<b>Fourth Semester</b>			
HVAC 50401572	Related Business	1	2-0
ELEC 50413554	Electric Controls of Mechanical Equipment 4	1	1-2
STEAM 50435570	Gas and Oil Burner Service	1	3-0
<b>Fifth Semester</b>			
HVAC 50401598	Digital Energy Management Systems	2	4-0
STEAM 50435571	System Start, Test, & Balance	2	4-0

# Steamfitting-Construction Apprenticeship Completion

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
WELD 50442500	Fundamentals of Arc Welding	4	2-6
<b>Second Semester</b>			
WELD 50442504	Advanced Pipe Welding Techniques	4	2-6
<b>Third Semester</b>			
STEAM 50435575	Science for Steamfitters	1	3-0
STEAM 50435580	Basic Drawing for Steamfitters	1	2-0
STEAM 50435581	System Layout & Design	1	2-0
STEAM 50435585	Mathematics for Steamfitters 1	0	1-0
<b>Fourth Semester</b>			
STEAM 50435550	Hot Water Heating Systems	1	3-0
STEAM 50435583	Applied Field Drawing for Steamfitters	1	0-2
STEAM 50435584	CAD for Steamfitters	1	2-0
STEAM 50435586	Mathematics for Steamfitters 2	0	1-0
<b>Fifth Semester</b>			
STEAM 50435552	Refrigeration Servicing	2	4-0
STEAM 50435555	Steam Applications	2	4-0

## Stem Cell Technologies Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses (Spring Only)</b>			
BIOTECH 10007118	Introduction to Human Stem Cell Concepts	1	1-0
BIOTECH 10007119	Advanced Human Stem Cell Concepts	1	1-0
BIOTECH 10007117	Advanced Human Stem Cell Methods	3	0-6

## Supervision Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
BUSADM 10102114	Business Communication	3	3-0
BUSADM 10102134	Introduction to Business	3	3-0
BUSADM 10102143	Management Techniques	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0

# Surgical Technologist

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Pre-Surgical Technologist Courses</b>			
<i>Choose from one of the two General Anatomy &amp; Physiology courses or Anatomy and Physiology 1 &amp; 2:</i>			
BIOLOGY 10806177	Gen Anatomy & Physiology	4	3-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
FOUNHLTH 10501101	Medical Terminology	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
SURGT 31512317	Surgical Technologist Functional Microbiology	1	2-0
<b>First Semester</b>			
SURGT 31512327	ST: Introduction	4	6-2
SURGT 31512328	ST: Fundamentals 1	4	6-2
SURGT 31512329	ST: Fundamentals 2	2	2-2
SURGT 31512330	ST: Clinical 1	3	0-0
<b>Second Semester</b>			
SURGT 31512331	ST: Surgical Procedures	4	8-0
SURGT 31512332	ST: Clinical 2	4	0-0
SURGT 31512334	ST: Clinical 3	4	0-0



# Technical Studies Journey Worker

An Associate in Applied Science Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

**Hrs/Week**  
**Credits/Units LEC-LAB**

### Coursework Required for Degree

#### Occupational Specific Courses (39 credits)

*The Occupational Specific Course area is met by a Wisconsin Apprenticeship Completion Certificate issued by the Department of Workforce Development-Bureau of Apprenticeship Standards registered program which included a minimum of 400 hours of prescribed apprentice related instruction in the Wisconsin Technical College System.*

#### General Education (21 credits)

*General Education courses must meet the WTCS Associate of Applied Science Degree requirement for a minimum of 21 credits of General Education distributed across the following categories.*

Communications	6
Social Science	3
Behavioral Science	3
Math and/or Science	3
Additional General Education	6

# Telecommunications Voice Data Video Installer Technician

## Apprenticeship Completion

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		<b>Credits/Units</b>	<b>Hrs/Week LEC-LAB</b>
<b>First Semester</b>			
TEL&CBL 50451591	Voice Data Video Install Sem 1	2	3.39-0.56
<b>Second Semester</b>			
TEL&CBL 50451592	Voice Data Video Install Sem 2	2	3.39-0.56
<b>Third Semester</b>			
TEL&CBL 50451593	Voice Data Video Install Sem 3	2	3.39-0.56
<b>Fourth Semester</b>			
TEL&CBL 50451594	Voice Data Video Install Sem 4	2	3.39-0.56
<b>Fifth Semester</b>			
TEL&CBL 50451595	Voice Data Video Install Sem 5	2	3.39-0.56
<b>Sixth Semester</b>			
TEL&CBL 50451590	Voice Data Video Install Sem 6	2	3.39-0.56

## Therapeutic Massage

A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
FOUNHLTH 10501153	Body Structure & Function - Used in a variety of Degree Programs	3	3-0
THERMASS 10537136	Musculoskeletal Anatomy for the Massage Therapist	4	3-2
THERMASS 31537340	Therapeutic Massage 1	4	2.44-5.55
THERMASS 31537342	Therapeutic Massage 2	4	2.44-5.55
<b>Second Semester</b>			
THERMASS 10537137	Kinesiology for the Massage Therapist	3	3-0
THERMASS 10537139	Pathology and Medical Terminology for the Massage Therapist	3	3-0
THERMASS 31537344	Specialized Techniques for Therapeutic Massage	4	2-6
THERMASS 31537346	Therapeutic Massage Clinic and Business Practices	4	2-6

# Tool & Die Apprenticeship Completion

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MACHT 50420711	Mathematics for the Machine Trades	1	1.61-0.38
MACHT 50420715	Mechanical Hardware & Hand Tools for Machine Trades Apprentices	1	1.61-0.38
<b>Second Semester</b>			
MACHT 50420713	Precision Measurement for Machine Tool Trade Apprentices	1	1.61-0.38
MACHT 50420714	Engineering Drawings for Machine Tool Trades Apprentices	1	1.61-0.38
<b>Third Semester</b>			
MACHT 50420710	Safety for Machine Tool Trade Apprentices	0	0.33-0.16
MACHT 50420720	Cut-Off Machines for Machine Trades Apprentices	0	0.33-0.16
MACHT 50420721	Metallurgy & Materials for Machine Trades	1	1.61-0.38
MACHT 50420732	Machine Tool Apprenticeship Greening Competencies - SAGE Project	0	0.72-0.27
<b>Fourth Semester</b>			
MACHT 50420716	Turning Machines for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420717	Milling Machines for Machine Trades Apprentices	0	0.5-0.27
MACHT 50420718	Drilling Machines for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420719	Grinding Machines for Machine Trades Apprentices	0	0.72-0.27
<b>Fifth Semester</b>			
MACHT 50420725	Basic CAD/CAM for Machine Trades Apprentices	1	1.61-0.38
MACHT 50420726	Jig and Fixture Design for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420727	Geometric Design and Tolerancing for Machine Trades Apprentices	0	0.72-0.27
<b>Sixth Semester</b>			
MACHT 50420724	CNC Programming and Planning for Machine Trades Apprentices	1	1.61-0.38
MACHT 50420733	CNC Operations for Machine Tool Trades Apprentices	1	1.61-0.38
<b>Seventh Semester</b>			
MACHT 50420728	Stamping Diemaking for Machine Tool Trade Apprentices	1	1.61-0.38
MACHT 50420729	Mold Making for Machine Tool Trade Apprentices	1	1.61-0.38
<b>Eighth Semester</b>			
MACHT 50420723	Electrical Discharge Machining for Machine Tool Trade Apprentices	0	0.72-0.27
MACHT 50420712	Communications for Apprentices		0.77-0.22

Complete 1 of the following to complete the Eighth Semester

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MACHT 50420730	Stamping Design Applications for Machine Trades Apprentices	1	1.61-0.38
MACHT 50420731	Molding Die Design Applications for Machine Tool Trade Apprentices	1	1.61-0.38

# Tree Care Technician

## A Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
ENGLISH 10801195	Written Communication	3	3-0
URBN FOR 10001101	Introduction to Arboriculture	2	1-2
URBN FOR 10001102	Plant Health Care Applicator	2	2-0
URBN FOR 10001110	Tree Biology	2	1-2
URBN FOR 10001118	Landscape Plant Identification	2	1-2
URBN FOR 10001124	Fundamentals of Aerial Tree Work	3	1-4
<b>Second Semester</b>			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
URBN FOR 10001113	Ornamental Plant Health Care for Arboriculture	3	2-2
URBN FOR 10001133	Equipment and Chainsaw Safety and Operation	3	1-4
URBN FOR 10001138	Landscape Management 1	3	2-2
URBN FOR 10001173	Urban Tree Maintenance	2	1-2
<i>Select one of the following practicum courses:</i>			
URBN FOR 10001121	Tree Crew Practicum 1	2	0-4
URBN FOR 10001125	Aerial Tree Work Practicum 1	2	0-4

# Veterinary Technician

## An Associate in Applied Science Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
VETTECH 10091102	Introduction to Veterinary Technician	2	2-0
VETTECH 10091107	Animal Disease 1	2	2-0
VETTECH 10091140	Animal Anatomy & Physiology 1	3	1-4
VETTECH 10091170	Veterinary Medical Terminology	2	2-0
VETTECH 10091171	Animal Care and Management 1	3	1-4
BIOLOGY 10806105	Principles of Animal Biology	4	3-2
<b>Second Semester</b>			
ENGLISH 10801195	Written Communication	3	3-0
VETTECH 10091109	Pharmacology 1 - Animals	2	1-2
VETTECH 10091134	Veterinary Technician Pre-Surgery	1	0-2
VETTECH 10091137	Veterinary Technician Clinical 1	2	0-0
VETTECH 10091161	Veterinary Laboratory Procedures 1	4	1-6
VETTECH 10091172	Animal Care And Management 2	3	1-4
<b>Third Semester</b>			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
VETTECH 10091108	Animal Disease 2	2	2-0
VETTECH 10091122	Advanced Topics in Veterinary Medicine	1	1-0
VETTECH 10091123	Lab Animal Science 1	2	1-2
VETTECH 10091127	Surgical Nursing 1	3	1-4
VETTECH 10091128	Animal Nursing 1	2	0.5-3
VETTECH 10091138	Veterinary Technician Clinical 2	2	0-0
<b>Fourth Semester</b>			
SOC 10809197	Contemporary American Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
VETTECH 10091110	Pharmacology 2	2	2-0
VETTECH 10091152	Surgical Nursing 2	3	1-4
VETTECH 10091153	Diagnostic Imaging	3	1-4
VETTECH 10091162	Veterinary Laboratory Procedures 2	4	1-6

# Video Production

## Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
VICOM 10206131	Sound Production Techniques	3	0-6
VICOM 10206130	Video Production	3	0-6
VICOM 10206129	Motion Design	2	0-4
<b>Second Semester</b>			
VICOM 10206142	Advanced Video Production	3	0-6
VICOM 10206151	Advanced Audio Techniques	3	0-6
VICOM 10206162	Video Project Management	3	0-6
JOURNAL 20801253	Documentary Storytelling	3	2-2



# Visual Communications

## An Associate in Applied Arts Degree

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
GRDSGN 10201102	Design Fundamentals	3	0-6
GRDSGN 10201103	Drawing Fundamentals	3	0-6
GRDSGN 10201136	Concept Development	2	0-4
GRDSGN 10201137	Survey of Design	1	1-0
GRDSGN 10201181	Introduction to Computer Graphics	3	0-6
PHOTO 10203130	Introduction to Photography and Video	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
<b>Second Semester</b>			
VICOM 10206181	Digital Color	2	1-2
GRDSGN 10201151	Typographic Design	3	0-6
GRDSGN 10201177	Web Page Design	3	0-6
VICOM 10206130	Video Production	3	0-6
VICOM 10206131	Sound Production Techniques	3	0-6
MATH 10804123	Math with Business Applications	3	3-0
<b>Third Semester</b>			
GRDSGN 10201121	Graphic Design	3	0-6
VICOM 10206151	Advanced Audio Techniques	3	0-6
VICOM 10206129	Motion Design	2	0-4
VICOM 10206142	Advanced Video Production	3	0-6
VICOM 10206162	Video Project Management	3	0-6
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Fourth Semester</b>			
VICOM 10206191	Advanced Motion Design	3	2-2
VICOM 10206128	Compositing and Special Effects	3	0-6
GRDSGN 10201162	Portfolio Preparation	2	0-4
VICOM 10206197	Portfolio Media Lab	1	0.5-1
SOC 10809197	Contemporary American Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Elective - See below for recommended elective options	2	
<b>Recommended Electives</b>			
VICOM 10206144	Audio Internship	1	0-0
VICOM 10206155	2D Character Animation	3	0-6
VICOM 10206156	Introduction to Careers in the Live Music Industry	1	1-0
VICOM 10206192	Live Audio Basics	3	1-4
VICOM 10206193	Live Lighting Design Basics	3	1-4
VICOM 10206194	Live Video Production Basics	3	1-4
JOURNAL 20801253	Documentary Storytelling	3	2-2

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Recommended electives also include the Honors Courses: 2  
10206801 and 10206901

# Visual Storytelling

## Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>Required Courses</b>			
GRDSGN 10201181	Introduction to Computer Graphics	3	0-6
PHOTO 10203130	Introduction to Photography and Video	2	0-4
VICOM 10206130	Video Production	3	0-6
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2

# Web & Digital Media Design

An Associate in Applied Arts Degree

## Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
GRDSGN 10201102	Design Fundamentals	3	0-6
GRDSGN 10201103	Drawing Fundamentals	3	0-6
GRDSGN 10201136	Concept Development	2	0-4
GRDSGN 10201137	Survey of Design	1	1-0
GRDSGN 10201181	Introduction to Computer Graphics	3	0-6
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
<b>Second Semester</b>			
GRDSGN 10201112	Color	2	0-4
GRDSGN 10201151	Typographic Design	3	0-6
GRDSGN 10201163	UX Design	3	0-6
GRDSGN 10201177	Web Page Design	3	0-6
GRDSGN 10201198	Social Media/Web Design Strategies	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
<b>Third Semester</b>			
GRDSGN 10201121	Graphic Design	3	0-6
GRDSGN 10201156	Front-End Web Design	3	0-6
GRDSGN 10201157	Social Media Concepting	3	0-6
GRDSGN 10201195	Advanced Web Page Design	3	0-6
VICOM 10206129	Motion Design	2	0-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
<b>Fourth Semester</b>			
GRDSGN 10201158	Advanced Digital Design	2	0-4
GRDSGN 10201162	Portfolio Preparation	2	0-4
GRDSGN 10201178	Applied UX/UI Design	3	0-6
GRDSGN 10201189	Web Design Project Management	3	0-6
SOC 10809197	Contemporary American Society	3	3-0
	Elective	3	
<i>Recommended Electives</i>			
ITPROG 10152119	Introduction to Programming with JavaScript	3	2-2
GRDSGN 10201153	Integrated Design	2	0-4
GRDSGN 10201183	Electronic Illustration	2	0-4
GRDSGN 10201184	Advanced Design & Layout	2	0-4

## Web & Interactive Design Certificate

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
GRDSGN 10201156	Front-End Web Design	3	0-6
GRDSGN 10201163	UX Design	3	0-6
GRDSGN 10201195	Advanced Web Page Design	3	0-6
GRDSGN 10201198	Social Media/Web Design Strategies	3	3-0
<b>Second Semester</b>			
GRDSGN 10201158	Advanced Digital Design	2	0-4
GRDSGN 10201189	Web Design Project Management	3	0-6
GRDSGN 10201178	Applied UX/UI Design	3	0-6

# Welding

## A One Year Technical Diploma

### Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2021-2022 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
<b>First Semester</b>			
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
WELD 31442312	Oxy Fuel Welding and Thermal Cutting	2	2-2
WELD 31442314	Arc Welding Theory	2	4-0
WELD 31442315	Basic Arc (SMAW)	2	0-4
WELD 31442318	Gas Tungsten Arc Welding 1 (GTAW/TIG)	2	0-4
WELD 31442323	Basic Gas Metal Arc Welding (GMAW/MIG)	2	2-2
MTLFAB 31457301	Fabrication 1	2	1-3
MATH 31804379	Vocational Math 1	1	2-0
<b>Second Semester</b>			
INSAFE 10449100	Safety for Industry	1	0-2
WELD 31442320	Welding Occupational Development	1	2-0
WELD 31442321	Arc Welding (SMAW) Vertical	2	2-2
WELD 31442322	Advanced Welding Techniques	2	2-2
WELD 31442326	Flux Cored & Advanced Gas Metal Arc Welding (FCAW/GMAW)	2	1-3
WELD 31442328	Gas Tungsten Arc Welding 2 (GTAW/TIG)	2	1-3
WELD 31442390	Fundamentals of Metallurgy	2	4-0
MTLFAB 31457302	Fabrication 2	2	1-3

## Degree Credit Course Descriptions

<b>ACCTG 10101106</b>	<b>Accounting Fundamentals</b>	<b>3 Credits/Units</b>
Surveys accounting principles and practices with an emphasis on interpretation, rather than preparation, of financial statements. Presents basic business terminology, cash basis and accrual basis accounting, ratio analysis, payroll, and budgeting. This class is not for students majoring in accounting.		
<b>ACCTG 10101111</b>	<b>Accounting 1 - Principles</b>	<b>4 Credits/Units</b>
Introduction to the field of accounting. The accounting cycle of journalizing transactions, posting, adjusting and closing entries, as well as the preparation of accounting statements is emphasized for service industries and merchandising concerns. Details of accounting for cash and receivables are studied. An introduction to a computerized accounting system is also included.		
<b>ACCTG 10101113</b>	<b>Accounting 2 - Principles</b>	<b>4 Credits/Units</b>
Procedures of accounting for partnerships and corporations. Additional topics include fixed assets, current liabilities and payroll, long-term liabilities, investments, statement of cash flows, analysis of financial statements, and may include an introduction to cost accounting.		
<b>ACCTG 10101118</b>	<b>Management Accounting</b>	<b>4 Credits/Units</b>
Emphasizes the managerial use of accounting reports, the problem-solving functions of accounting in relation to current planning and control, performance evaluation, long-range planning, budgets and cost-volume-profit relationships.		
<b>ACCTG 10101121</b>	<b>Accounting 3-Intermediate</b>	<b>4 Credits/Units</b>
This intermediate-level course builds on the material covered in the Accounting Principles-1 and -2 courses. It expands on earlier coverage of both the income statement and balance sheet. Revenue recognition concepts and methods are covered. Emphasis is also placed on each classification of asset. This emphasis includes in-depth coverage of cash, receivables and inventory. Coverage also includes operational asset acquisition, depreciation, and disposal. Present value concepts are studied and applied. Excel spreadsheet software is used in this course.		
<b>ACCTG 10101122</b>	<b>Accounting 4-Intermediate</b>	<b>4 Credits/Units</b>
Emphasizes analysis of financial statements. Generally accepted accounting principles are applied in the preparation, analysis and interpretation of financial statements. Particular emphasis is applied to valuation of current and long-term liabilities and stockholders' equity, and earnings per share. Special topics included are deferred income taxes, long-term investments, and leases. Further consideration is applied to errors and their correction, and statements of cash flow. Comparison and analysis is also made between GAAP and international standards(IFRS).		
<b>ACCTG 10101123</b>	<b>Tax 1</b>	<b>4 Credits/Units</b>
Introduction to federal and state income tax laws with an emphasis on personal taxes. These areas are included: filing status, personal exemptions and standard deductions; income recognition, itemized deductions, credits, depreciation, gains and losses, and sole proprietorship taxation. The course also requires the preparation of a series of individual income tax returns.		
<b>ACCTG 10101125</b>	<b>Cost Management</b>	<b>4 Credits/Units</b>
This course presents typical accounting methods and processes that are used for collecting information for effective decision making for both manufacturing and service environments. Areas emphasized include job order costing, process costing, standard costing, activity based costing, budgeting, cost allocations, cost-volume-profit analysis and capital investment analysis. Students will be required to prepare and analyze various management reports.		
<b>ACCTG 10101137</b>	<b>Computerized Accounting Applications</b>	<b>2 Credits/Units</b>
Provides practical experience developing and applying flexible solutions to accounting problems using Excel. Spreadsheet tools that may be utilized include analysis formulas, cross-referencing and linking, lookup, statistical, date/time, database and financial functions; tables, pivot tables, dashboards, transferring Excel information into other programs, logical statements (IF); what-if tools, charting and macros. Students will also benchmark ten-key data entry speed and improve this skill as needed.		
<b>ACCTG 10101138</b>	<b>Accounting And Payroll Systems</b>	<b>3 Credits/Units</b>
A survey of accounting and payroll systems covering procedures and methods to capture data and report financial information. Specific topics include flowcharting, internal controls, and transaction work in both manual and computerized environments. Special emphasis is also placed on payroll calculations and the processing of payroll information. Lab intensive course involving hands-on experience with Excel spreadsheet software and accounting software.		
<b>ACCTG 10101139</b>	<b>QuickBooks-Beginning</b>	<b>1 Credits/Units</b>

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Introduction to QuickBooks-Beginning small business accounting software. Students become familiar with QuickBooks features and learn to use the software to set up a new company, manage business revenue and expenses, process payroll, reconcile bank accounts, track inventory and create useful reports. A tutorial approach will be followed using a textbook and practice problem templates. Prerequisites:

(1) Course work or experience in Microsoft Windows and using email is required.

(2) Accounting program students should take this course the second half of the semester they take 10-101-111 Accounting 1-Principles (or they may take it in a semester after they have completed Accounting-Principles). (Non-program students working in the accounting field or with small business management experience should obtain permission from the instructor to register, and take the course in a section during the first half of a semester.

**ACCTG 10101140 Accounting/Business Internship 3 Credits/Units**  
Opportunity for students to apply accounting or business skills in a real life business environment. Activities may include working with bank and account reconciliations, accounts payable preparation, spreadsheet work and development, preparing and analyzing financial reports, tax return preparation and other business related duties as requested by the employer.

**ACCTG 10101141 QuickBooks-Intermediate 1 Credits/Units**  
QuickBooks-Intermediate is the next course offering after QuickBooks-Beginning which provides student users with in-depth material on advanced topics. Topics will include inventory; Sales Tax; Time Tracking; Payroll Setup and Processing; Estimates and Sales Orders; Budgeting, Forecasting & Business Planning; and Adjustments and Year-End Procedures. A tutorial approach will be followed using a textbook and practice problem company files.

**ACCTG 10101142 Accounting Capstone 3 Credits/Units**  
This course will provide students an opportunity to demonstrate their attainment of program outcomes through the completion of a project. This project accounts for a small business through the accounting cycle, review of internal controls, and financial analysis.

**ACCTG 10101154 Payroll Accounting 1 Credits/Units**  
This course introduces the student to the many aspects of payroll accounting, administration, and management. The course is intended for accounting students, other business students and outside professionals who have a need or interest in understanding the laws and regulations, the calculations (including all payroll taxes), the government reporting and the accounting entries related to the payroll function.

**ADMINPRF 10106100 Mindset for Success 3 Credits/Units**  
Designed to foster the attitudes and skills that can inspire and empower you throughout your career regardless of your chosen path. Develop and improve skills in creativity, ambition, critical thinking, innovation, opportunistic thinking, and teamwork through experiential and problem-solving approaches. Become an engaged workplace contributor and develop a workforce-ready mindset.

**ADMINPRF 10106106 Business Writing and Research 3 Credits/Units**  
Apply effective writing strategies to compose employment-related correspondence including business letters, memos, informal reports, and formal reports. Learn to use correct-order writing plans as well as appropriate tone, etiquette, and style. Apply writing, researching, and critical thinking skills in the context of real business writing scenarios. Reinforcement of grammar, punctuation, and proofreading will be integrated throughout the course.

**ADMINPRF 10106107 Business Document Applications 3 Credits/Units**  
Achieve expert-level Word skills by learning the world's leading word processing program within the Microsoft Office Suite. Emphasis is placed on learning to use Microsoft Office Word software to efficiently and effectively produce business documents. Students will apply Microsoft Word skills to solve practical problems in a project-based format. Explore fundamentals and best practices in document creation, editing, formatting, collaboration, tables, mail merge, desktop publishing, themes, templates, forms, and macros. Prerequisites: Windows competency, including solid file management skills; ability to key 30 WPM. This course will use Microsoft Office 365/Word 2019.

**ADMINPRF 10106108 Proofreading And Editing 3 Credits/Units**  
Develop and refine writing skills with a focus on effective communication within the professional workplace. Review grammar, punctuation, and word usage skills. Proofread and edit business documents for appropriate content and clarity.

**ADMINPRF 10106109 Business Spreadsheet Applications 3 Credits/Units**  
Create professional data-driven workbooks utilizing Microsoft Office Excel spreadsheet software. Using Microsoft Excel, work with formulas and a variety of time-saving functions; professionally format worksheets; create charts and tables; utilize advanced functions and apply conditional formatting; work with multiple worksheets, workbooks, and templates; incorporate data validation; utilize worksheet protection; create macros; export and cleanse data sets; and perform what-if analysis with Scenario Manager, Data Tables, and Solver. Recommended prerequisite: Windows competency, including solid file management skills. This course will use Microsoft Office 365/Excel 2019.

**ADMINPRF 10106121 Office Technology and Procedures 3 Credits/Units**



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Learn new technological advances used in today's office. Topics include office equipment; business procedures; digital communication; digital security, privacy, and threats; computer components; storage; and procedures that prepare you to work alongside administrative leaders via real-world business scenarios.

**ADMINPRF 10106126**                      **Software Capstone**                      **3 Credits/Units**  
This is a capstone course for the Administrative Professional and Medical Administrative Specialist programs. This course is based upon knowledge learned in previous courses and uses multiple software applications, including but not limited to Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and Microsoft Access. Apply industry-standard formats to business correspondence including, business letters, reports, and publications. Manage information, apply critical-thinking skills to real-world scenarios, research topics, and compose a variety of integrated business documents, spreadsheets, databases, and presentations. This course will use Microsoft Office 365/Office 2019.

Enrollment Requirements:

Prerequisite: 10106107 OR 10103136; 10106109 OR 10103139; 10106231 OR 10103143; 10106240 OR 10103145; Co-req 10106106

**ADMINPRF 10106139**                      **Keyboard Skillbuilding**                      **1 Credits/Units**  
Refine keyboarding technique, increase speed, and improve accuracy through individualized practice. The student must be able to touch type, which is defined as using the correct key reaches and not looking at the keys while typing, at a minimum rate of 25 words per minute. Equipment requirement: Access to Internet.

**ADMINPRF 10106164**                      **Customer Contact Skills**                      **2 Credits/Units**  
Develop a foundation in customer service knowledge and skills through inquiry and analysis of internal and external customers, verbal and nonverbal communication, listening techniques, critical thinking and problem-solving, as well as adding value to customer service interactions. Focus on the impact of technology on customer service, analyze service breakdowns and recovery, examine customer loyalty programs, and explore the diverse customer base within our global economy.

**ADMINPRF 10106172**                      **Administrative Office Management**                      **3 Credits/Units**  
Develop the skills necessary to succeed in a global business office. Topics include: teamwork and interpersonal skills, business travel, meeting preparation and support, meeting minutes/note taking, online surveys, workplace confidentiality, management and leadership skills, and global business perspectives. Learn how to effectively manage and support others within an organization.

**ADMINPRF 10106190**                      **Professional Development**                      **1 Credits/Units**  
Get fully prepared for your job or internship search! Build an electronic portfolio by creating an effective resume, cover letter, and thank you letter. Polish interviewing, networking, and personal branding skills. Learn effective techniques to present yourself to employers for job prospects or promotions.

**ADMINPRF 10106192**                      **Internship - Administrative Professional**                      **1 Credits/Units**  
Gain valuable, hands-on experience for your job search. Complete a 72-hour internship in an office setting supervised by a cooperating employer. Students will correspond with the Instructor via video conferencing and written reports. Must be in the last semester before graduation. Note: This is a fully online course. This course does not require on campus meetings.

**ADMINPRF 10106199**                      **Internship - Office Management**                      **1 Credits/Units**  
Gain valuable, hands-on experience for your job search. Complete a 72-hour internship in an office setting supervised by a cooperating employer. Students will correspond with the Instructor via video conferencing and written reports. Must be in the last semester before graduation. Note: This is a fully online course. This course does not require on-campus meetings. Students must be in their final semester before graduation, having completed all courses in the prior three semesters for the Office Management program.

**ADMINPRF 10106231**                      **Business Presentations and Publications**                      **3 Credits/Units**  
Explore key graphic design principles and best practices for designing and presenting. Using Microsoft PowerPoint, incorporate graphics, SmartArt, icons, sound, video, narration, charts, and tables to engage your audience. Add transitions and animation to enhance presentations. Work with the Slide Master to fully customize presentations. Explore desktop publishing using Microsoft Publisher to develop eye-catching handouts, flyers, brochures, newsletters, and custom publications. Prerequisite: Windows competency, including solid file management skills. This course will use Microsoft Office 365/Publisher and PowerPoint 2019.

**ADMINPRF 10106240**                      **Business Information Management**                      **3 Credits/Units**  
Concentrates on the fundamentals of managing the record and information life cycle; rules for paper and electronic filing systems; charge-out procedures; retention schedules; transfer methods; control measurements; imaging systems and information security. Incorporates database skills using Microsoft Access including how to plan, create, and manage data; modify a database structure; relate tables; find, filter, query and sort data; create forms and reports; and import, export and link database properties. This course offers the opportunity to earn a badge in Records and Information Life Cycle. This course will use Microsoft Office 365/Access 2019.

**AGMECH 10070100**                      **Introduction to Agricultural Equipment**                      **1 Credits/Units**

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Includes a discussion of the job requirements, skills needed, career options and employment opportunities in agricultural equipment repair and maintenance. Introduces basic mechanics, shop procedures, safety practices, tools and using service resources.

**AGMECH 10070105                                  Electricity 1                                  3 Credits/Units**

This class begins with a discussion of the laws of electricity as they relate to the operation of the charging, starting and lighting systems. Diagnostic testing and troubleshooting will be demonstrated on alternators, starters and lighting systems. Methods of repair will be demonstrated where methods are currently used at the dealerships.

**AGMECH 10070115                                  Planting and Seeding                                  3 Credits/Units**

This course provides instruction in the theory of operation, adjustment and service of planting equipment. Students will learn the operation and service of corn planters and grain drills. Emphasis is given to how the corn planter seed meters work and how the attachments operate. In addition, the course also provides information on the theory, operation, adjustment and service of planting and seeding equipment.

**AGMECH 10070125                                  Hydraulics 1                                  3 Credits/Units**

This course introduces the student to the hydraulic systems found on agricultural equipment. Demonstrate the theory of open and closed hydraulic systems. The component configuration and operational characteristics of this equipment will be introduced. Students will service and rebuild the pump, control valves and other components of the hydraulic system. Students will follow the technical manual diagnostic procedures to troubleshoot hydraulic system problems.

**AGMECH 10070135                                  Basic Fuel Systems                                  2 Credits/Units**

This course covers the theory of operation, construction and service of diesel engine mechanical fuel systems. Timing and adjustments and diagnostics of fuel systems along with air intake and exhaust systems including turbo chargers will also be covered.

**AGMECH 10070145                                  Basic Powertrain                                  3 Credits/Units**

The course covers the operation, power flow, diagnosis and servicing of collar shift, synchronized transmissions, drive axles, and differentials. The class also discusses the operation and service of wet and dry clutches, power take off (PTO) drives and mechanical front wheel drives.

**AGMECH 10070187                                  Occupational Experience 1 - Agricultural Equipment  
Technology Program                                  2 Credits/Units**

Students receive on-the-job experience in the areas of implement repair and service. Areas covered include, but are not limited to, tillage, planting and hay harvesting machines. Students also will be exposed to the operation and function of the dealership service department. Prerequisite: second-semester standing.

**AGMECH 10070191                                  Basic Engine Repair                                  3 Credits/Units**

Study in this course will allow the student to develop a basic knowledge of combustion engine design and operation with the major emphasis on diesel engines. Experience in the course will provide the student with the skills and knowledge needed to diagnose, overhaul, maintain, adjust and repair engines found in agricultural machines and equipment.

**AGMECH 10070193                                  Mobile Heating & Air Conditioning                                  2 Credits/Units**

This course covers the theory of operation, service and testing of air conditioning units used to cool and heat the operator's cab. Lab work consists of leak detecting, evacuation, charging component installations, electrical circuits and troubleshooting of systems. Air conditioning service certification tests are also given to students enrolled in this course.

**AGMECH 10070205                                  Electricity 2                                  3 Credits/Units**

This class begins with a discussion of the laws of electricity as they relate to the operation of the charging, starting and lighting systems. Diagnostic testing and troubleshooting will be demonstrated on alternators, starters and lighting systems. Methods of repair will be demonstrated where methods are currently used at the dealerships.

**AGMECH 10070215                                  Crop Harvesting                                  3 Credits/Units**

This course provides instruction in the theory of operation and service of combines, headers, hay & forage equipment including balers, mower conditioners and forest harvesters. Students will learn how the equipment processes the crop, the basic components, means of service, repair and adjustments of the machines.

**AGMECH 10070225                                  Hydraulics 2                                  3 Credits/Units**

This course component configuration and operational characteristics of this equipment will be introduced. Students will service and rebuild the pump, control valves and other components of the hydraulic system. Students will follow the technical manual diagnostic procedures to troubleshoot hydraulic system problems.

**AGMECH 10070235                                  Advanced Fuel Systems/Emissions                                  2 Credits/Units**

This course covers the theory of operation, construction and service of diesel engine fuel systems. Also reviewed are diesel engine compression, ignition, theory combustion, chamber design and procedures for installing, timing of fuel quantity for proper combustion. Electronic fuel delivery will be discussed as it relates to engine operation.

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### **AGMECH 10070245**

#### **Advanced Powertrain**

**3 Credits/Units**

The course covers the operation, power flow, diagnosis and servicing of partial and full power shift transmissions, IVT/CVT transmission.....

### **AGMECH 10070250**

#### **Precision Farming (GPS)**

**3 Credits/Units**

This course will introduce students to GPS and how it works with agricultural machinery functionality. Basic GPS equipment guidance systems set-up, operation and diagnostics will be utilized. Types of GPS signals and their applications currently used on agricultural equipment will be covered. Set-up and operations of precision farming applications.

### **AGMECH 10070291**

#### **Advanced Engines**

**3 Credits/Units**

Study in this course will allow the student to develop a basic knowledge of combustion engine design and operation with the major emphasis on diesel engines. Experience in the course will provide the student with the skills and knowledge needed to diagnose, overhaul, maintain, adjust and repair engines found in agricultural machines and equipment.

### **AGMECH 10070305**

#### **Electronics**

**3 Credits/Units**

This course will teach student to diagnosis type and operation temperature, pressure and speed sensors. Students will be introduced to the computer machine communication systems. Students will be shown the procedure for recalling trouble codes and diagnostic of the code(s).

### **AGMECH 10070325**

#### **Hydraulics 3**

**3 Credits/Units**

This course provides instruction on the component configuration and operational characteristics of these tractors will be introduced. Students will service and rebuild the axial piston pumps, SCV's and other components of the hydraulic system. Students will follow the technical manual diagnostic procedures to check out and troubleshoot the hydraulic system.

### **ANIM 10207103**

#### **Basic Drawing for Concepting**

**2 Credits/Units**

An introductory drawing course emphasizing visualization and rendering skills necessary for concept development in animation and digital 3D. Students will learn the fundamentals of perspective, proportion, linear rendering, basic value structure, and digital approaches currently practiced in related industries. Lecture/demonstration and guided practice leads students toward the creation of concept drawings intended for modeling in 3D, including the development of variations, digital techniques to enhance productivity, and discussion of the strengths and limitations of 3D final execution.

### **ANIM 10207110**

#### **Animation 1**

**2 Credits/Units**

General overview of professional animation, including current industry standards and practices. Students begin a basic study of motion dynamics based largely on the industry's "Fundamental Principles of Animation," presented through a combination of lecture and demonstration and continual analysis of existing professional animation. Contemporary standards, definitions, workflows, etc., are discussed as well as job organization and job-tracking skills, and translation of basic motion principles into digital 3D space.

### **ANIM 10207111**

#### **Texturing 1**

**2 Credits/Units**

A foundation introduction to digital 3D. Students learn to organize electronic files and projects into a professional workflow, and to electronically navigate Cartesian space. Class activities include the basics of digital modeling and surfacing, and the translation of 2D prep-work into 3D prototypes.

### **ANIM 10207112**

#### **2D Fundamentals**

**2 Credits/Units**

An introduction to Photoshop as used in professional 3D asset creation and concept development. File organization, efficiency, capture, and best practices are discussed, as well as basic texture creation, tiling, and interaction with 3D software.

### **ANIM 10207113**

#### **3D Fundamentals**

**2 Credits/Units**

Students will begin with the basics of a 3D interface including selecting and manipulating objects, understanding Cartesian space as well as exploring best practices for organizing and structuring a 3D scene. Students will also be introduced to basic modeling tools and basic animation tools as a preparatory stage to the Modeling One and Animation One courses in the Animation Program Curriculum. This course will direct students towards building a solid understanding of the concepts, terms and workflows required to create professional level 3D assets for film and games.

### **ANIM 10207114**

#### **Modeling 1**

**2 Credits/Units**

This course is an introduction to the fundamental techniques, theories, workflows and software as it relates to 3D modeling for real-time and pre-rendered production. Students will create digital models with an emphasis on topographical density, texture mapping, multi-step processes and asset design. Lectures and projects consist of the various production techniques that explore polygonal modeling and how to prepare constructed models for texturing.

### **ANIM 10207117**

#### **Figure Drawing for Concepting**

**3 Credits/Units**

An introduction to drawing the human figure for the purpose of creating concept art for 3D industries. Course syllabus includes approaches to gestural sketching, proportional and anatomical construction, complete figure studies, and digital techniques for making corrections, variations, and enhancing productivity based on current 3D industry practices.

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<b>ANIM 10207120</b>	<b>Animation 2</b>	<b>2 Credits/Units</b>
Continuation of the study of motion with emphasis on character movement and animation. A combination of lectures and class demonstration introduces students to forward- and inverse-kinematics, and gradually more complex rigging. The continued study of body mechanics and dynamics by analyzing classic and contemporary professional animation will assist students in translating their own ideas into credible motion in digital form.		
<b>ANIM 10207122</b>	<b>Texturing 2</b>	<b>2 Credits/Units</b>
A continuation of Texturing 1, this course moves students into more complex modeling and surfacing challenges. Specialized techniques such as patch- and advanced spline-modeling are explored as well as specialized shaders, normal maps, and other advanced surfacing options. Students complete the semester with the design and creation of a complex, multi-part object correctly constructed, linked and boned for advanced animation techniques.		
<b>ANIM 10207130</b>	<b>Digital Set Design 1</b>	<b>2 Credits/Units</b>
Students concentrate on the planning and construction of architectural and environmental spaces in game-engine software. Basic architectural principles as they relate to animation and appropriate effects for specific themes are explored as well as environmental factors relating to the creation of credible worlds. Class activities include the exploration of specialized perspective problems, world-specific texture-sets, lighting and composition.		
<b>ANIM 10207131</b>	<b>Animation 3</b>	<b>2 Credits/Units</b>
By exploring various off-computer techniques for analyzing character motion, students practice translating their observations into digital form and applying them to their own creations. Extensive study of actual footage and professional work helps students make the conceptual transition from real-world to believable virtual motion.		
<b>ANIM 10207133</b>	<b>Digital Set Design 2</b>	<b>2 Credits/Units</b>
Students build upon skills learned in Digital Set Design 1 and work toward the completion of a functional digital environment. In-engine animation and playback is discussed along with further studies in architectural principles, interior and exterior lighting, textures and fine-tuning the final appearance of each student's own creation.		
<b>ANIM 10207134</b>	<b>Modeling 3</b>	<b>2 Credits/Units</b>
A continuation of modeling skills developed in first two semesters with concentration in creating character and creature models correctly structured for rigging and animation. Realistic and stylized designs are explored as well as advanced UV and basepage techniques.		
<b>ANIM 10207139</b>	<b>Design &amp; Color for Concepting</b>	<b>2 Credits/Units</b>
An introduction to the fundamental principles of design and how they relate to both 2D and 3D environments. The course examines differences in interpretation when design principles are applied to a variety of 2D and 3D scenarios. The second half of the semester introduces primary, secondary and tertiary colors leading to an in-depth exploration of color theory and how these concepts relate to 3D media.		
<b>ANIM 10207140</b>	<b>Advanced Animation Studio 1</b>	<b>2 Credits/Units</b>
This is the first class in a two-part comprehensive animation studio series. It is a project-based course in which students develop their own projects in consultation with instructors. Extensive studio time provides advanced students with large blocks of instructor and equipment access and allows an in-depth study of particular aspects of digital 3D targeting the completion of a professional quality demo-reel. Group study and interaction is encouraged and detail job tracking is required.		
<b>ANIM 10207141</b>	<b>Production Studio</b>	<b>3 Credits/Units</b>
Production Studio is an advanced course in multiple aspects of digital 3D motion. The focus of this course is to develop more intricate and complex character and mechanical animation.		
<b>ANIM 10207142</b>	<b>Animation Internship</b>	<b>2 Credits/Units</b>
Students work on-site in a professional setting or work on a specific task in consultation with a professional mentor. Regular reviews with a professional are scheduled to assess the student's progress and work quality. Details of internship arrangements can be developed between the student and the participating company as long as specific minimum course requirements are fulfilled.		
<b>ANIM 10207144</b>	<b>Advanced Animation Studio 2</b>	<b>2 Credits/Units</b>
This is the second class in a 2-part comprehensive studio series. It is a project-based course in which students develop their own projects in consultation with Instructors and industry professionals. Extensive studio time provides advanced students with large blocks of Instructor and equipment access, and allows an in-depth study of particular aspects of digital 3D targeting the student's particular interests. Group study and interaction is encouraged and detailed job-tracking is required.		
<b>ANIM 10207145</b>	<b>Portfolio for Animation</b>	<b>1 Credits/Units</b>

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Students will finalize a series of animations and other artwork to be posted online highlighting individual capabilities with the goal of targeting potential employers and/or four-year animation degree programs for further education. In addition, students prepare a professional-level 2D portfolio and a personal ID package (stationary, business cards, etc.). Participation in the year-end Applied Arts portfolio show is required.

**ANIM 10207150    Animation Concepts 1    3 Credits/Units**  
Intensive study of the process of developing visual concepts for 3D execution. Course Traditional and digital drawing techniques cover the design of architectural, mechanical, vehicle, and other assets related to the creation of credible and functional 3D environments.

**ANIM 10207151    Animation Concepts 2    2 Credits/Units**  
Intensive study of the process of developing visual concepts for 3D execution, with concentration on the development of character and creature ideas for 3D execution. Traditional and digital drawing techniques cover the design of functional body-mechanics, personality traits and other aspects related to creating the illusion of life.

**ANIM 10207152    Advanced Digital Illustration    2 Credits/Units**  
This workshop will allow students to expand on 3D technology and explore more intricate and complex aspects of animation. Students will need permission from the instructor to register.

**ANIM 10207224    Modeling 2    2 Credits/Units**  
This course is an advanced modeling class focusing on specific techniques for creating hard surface models. Hard surfaced models are defined in this course as man-made or machined objects, examples might include helmets, wind turbines, robots or furniture. Building on the concepts of Modeling 1, students will be required to design, research, model, texture and light various hard surface projects over the course of the semester.

**ANTHRO 20809279    Introduction to the Archaeology of Native North America    3 Credits/Units**  
Provides a detailed survey of the archaeology of North America from the initial movement of peoples into North America to European contact. This course will focus on each defined archaeological culture areas in turn, including: the Eastern Woodlands, Arctic, the Great Plains, Southwest, Plateau, Northwest Coast, and Central America. Students will also be provided with an understanding of basic archaeological theory and concepts as necessary to understand the intricacies of Pre-contact Native American cultures. This course will dispel modern stereotypes about Native North American cultures by providing details on Native American lifeways.

**ANTHRO 20809280    General Anthropology    3 Credits/Units**  
Anthropology is the study of humans and their culture, which includes a survey of three major sub-disciplines of anthropology: physical anthropology, which explores human biology, evolution and the emergence of culture; archeology, which examines the physical evidence of past cultures; and cultural anthropology, which focuses on contemporary culture.

**ANTHRO 20809281    Archaeology & Prehistoric World    3 Credits/Units**  
Designed for students interested in the human past, the period of prehistory where few written records exist and most knowledge of the period comes via archaeological investigations. Organized in a historical and topical fashion, the course traces the evolution of human culture through time, focusing on the best known archaeological sites in Africa, Asia, Europe, North America and Mesoamerica. Emphasis on major changes in human and cultural evolution, such as hunting, abstract thought, domestication of plants and animals, social stratification, the development of writing, the rise of states and urbanization.

**ANTHRO 20809283    Cultural Anthropology & Human Diversity    3 Credits/Units**  
This course focuses on exploring the range of modern human cultural diversity across the world. The class will examine the cultural practices and historical ties that constitute commonalities across cultures. Particular attention will be paid to the cultural complexity of modern urbanized societies such as that of the United States.

**ANTHRO 20809285    Anthropology of Myth, Magic, and Religion    3 Credits/Units**  
An anthropological course designed to explore and examine the place of magic and religion in human culture. Students will look closely and critically at 'world religions' (Buddhism, Islam, Christianity, etc.) with analytical exploration of smaller-scale religious and magical practices (shamanism, Wicca, new Age, Cargo Cults, etc.). The forms that magic and religion have taken in human cultures, both past and present, will be covered. Prerequisite: any college-level social science course.

**ANTHRO 20809286    The Anthropology of Globalization & Multiculturalism    3 Credits/Units**  
This course explores the ways that our societies, cultures and experiences have been transformed, in both positive and negative ways, by the political, technological and economic changes brought about by the collapse of the old colonial systems and the continuing growth of all pervasive capitalism, consumerism and militarism.

**ANTHRO 20809287    Anthropology of Islamic Societies and Cultures    3 Credits/Units**  
This course will explore the social, cultural, economic and political aspects of the emergence, development and spread of Islam as a world religion. It will focus on Islam in 7th century Arabia, how the religion changed in the time since the 7th century and as Islam moved out of Hijaz into Africa and Asia, and its historical and continuing encounters with the West.

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**ANTHRO 20809289**                      **World Regional Geography**                      **3 Credits/Units**  
World Regional Geography introduces students to the basic physical and cultural geographies of the world's major regions (e.g., Central Asia, the Caribbean). Emphasis is placed on exploring what makes each region environmentally and culturally distinct, on regional human-environment relationships and associated environmental issues, and on the historical and contemporary linkages between the world's regions.

Course themes are placed in the context of globalization, including its historical periods (e.g., European colonialism). The world's regions have become increasingly interconnected through transnational flows of people, plants, capital, and microbes, among other things. This course examines how and why

the world has become more interconnected, and how globalizing processes have shaped the political, economic, ecological, and cultural character of each world region.

**ARABIC 20802240**                      **Intro to Modern Arabic 1**                      **3 Credits/Units**  
Intro to Modern Arabic 1 begins with a thorough study of the Arabic sound and writing system, with the simultaneous introduction of conversational skills in Modern Standard Arabic, the standard written and literary form of Arabic used in educational institutions throughout the Arabic-speaking world. Modern Standard Arabic is the language of newspapers and literature, as well as that of formal speeches and news broadcasts. This course fulfills the needs of those wishing to pursue studies of the Qur'an and classical texts as well as those wishing to be fluent in contemporary Arabic in both its written and formal spoken forms. Knowledge of this form of Arabic can serve as a basis for further studies of regional dialects. At the conclusion of the course, students will be able to speak and write using a basic vocabulary and thorough understanding of the Arabic writing system. This course, combined with Intro to Modern Arabic 2 transfers to the University of Wisconsin-Madison as equivalent to the 5 credit African Lang. & Lit 321: First Semester Arabic.

**ARABIC 20802241**                      **Intro to Modern Arabic 2**                      **3 Credits/Units**  
Intro to Modern Arabic 2 builds on the basic understanding of the Arabic sound and writing system and conversational skills in Modern Standard Arabic established in Intro to Modern Arabic 1. Modern Standard Arabic is the language of newspapers and literature, as well as that of formal speeches and news broadcasts. This course fulfills the needs of those wishing to pursue studies of the Qur'an and classical texts as well as those wishing to be fluent in contemporary Arabic in both its written and formal spoken forms. Knowledge of this form of Arabic can serve as a basis for further studies of regional dialects. At the conclusion of the course, students will be able to speak and write about themselves with complete control of the Arabic writing system. This course, combined with Intro to Modern Arabic 1 transfers to the University of Wisconsin-Madison as equivalent to the 5 credit African Lang. & Lit 321: First Semester Arabic.

**ARCHT 10614100**                      **Introduction to Architecture**                      **3 Credits/Units**  
This course examines the way one perceives the man-made environment, how to better understand it and related disciplines. An overview of architecture and its elements including design, history, terminology, sustainable design, urban design and landscape architecture will be presented.

**ARCHT 10614101**                      **Architectural Theory 1**                      **3 Credits/Units**  
A survey and examination of key underlying design tenets, theory, philosophies; and social, cultural and behavioral factors in applied environmental settings. Theoretical design principles are introduced in lecture and readings that incorporate seminal works of architecture. Students combine the creation of collage diagram analysis with intensive writing experiences as a model for learning theoretical design principles.

**ARCHT 10614103**                      **Architectural Software 3**                      **3 Credits/Units**  
Intermediate skills in the core software platforms used in the architectural profession: AutoCAD, Revit, SketchUp, Lumion, Podium, and Photoshop.

**ARCHT 10614104**                      **Architectural Software 4**                      **3 Credits/Units**  
Advanced skills in the core software platforms used in the architectural profession: AutoCAD, Revit, and SketchUp.

**ARCHT 10614106**                      **Architectural Building Codes**                      **3 Credits/Units**  
Emphasis is placed on the study of the International Building Code and the Uniform Dwelling Code. The student will become familiar with using the code and will acquire a general knowledge of codes, standards and federal regulations.

**ARCHT 10614107**                      **Architectural Building Detailing**                      **3 Credits/Units**  
This course provides an in-depth study of materials and building assemblies as it pertains to accepted practices in architectural detailing and design. Emphasis will be placed on detailing techniques commonly found in commercial construction. Topics included are masonry, steel, and concrete construction. Field trips and guest lecturers from the architectural, engineering and construction industry will supplement the course.

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- ARCHT 10614109 Architectural Building Structures 3 Credits/Units**  
Study of forces that act on a structural member. These forces affect all types of structures including parts of machines. This course will emphasize the use of statistics as it applies to building structures. Students look at types of force systems, vectors, resultant forces, moments, truss analysis and reactions. Strength of Materials provides the various analytical tools necessary for the sizing of specific structural members based on the loading conditions and strength of the material. The student will gain the knowledge necessary to calculate the sizes of members made of specific materials including wood, steel and masonry.
- ARCHT 10614120 Professional Practice 2 Credits/Units**  
This course will examine the professional environment in which the architectural technician works related to the organization and conduct of a design/construction practice. Learners will examine this aspect of the profession through a number of different lenses: procuring employment, state laws governing architectural practice, project budgeting, client management, project delivery/team organization modes, contracts and legal issues, risk and liability management, product specifications and substitutions, and construction administration, dispute resolution, and social responsibility. The goal of the course is to broaden and deepen learners' understanding of the profession, its role in society, and his or her place in it.
- ARCHT 10614121 Construction Materials - Architectural Technology 3 Credits/Units**  
Emphasizes materials used in building construction and their manufacture and application in various construction systems from wood frame to masonry, steel and precast concrete. Basic properties of materials are discussed as well as how, when and where to use them.
- ARCHT 10614123 Electrical and Mechanical Systems 4 Credits/Units**  
Covers the basic principles of plumbing, electrical, lighting, daylighting, HVAC, fire safety, sprinklers, energy efficient design, vertical transportation and acoustics found in buildings today. Particular attention will be paid to the International Building Code and its impact on these systems. Guest speakers and a small student designed project will augment the course.
- ARCHT 10614127 Architectural Software 2 4 Credits/Units**  
Developmental skills in the core software platforms used in the architectural profession: AutoCAD, Revit, SketchUp, and Photoshop. Emphasis is on Revit; course includes continuation of AutoCAD & SketchUp skills and further exploration of Photoshop.
- ARCHT 10614128 Architectural Software 1 4 Credits/Units**  
Introduces learners to design thinking by exploring overarching architectural concepts. Course also introduces learners to basic architectural drawing typologies, proper technical drawing conventions, and perceptual and conceptual design drawing techniques. Course uses simple design projects as a framework to achieve outcomes.
- ARCHT 10614129 Architectural Studio 1 4 Credits/Units**  
Introduces learners to design thinking by exploring overarching architectural concepts. Course also introduces learners to basic architectural drawing typologies, proper technical drawing conventions, and perceptual and conceptual design drawing techniques. Course uses simple design projects as a framework to achieve outcomes.
- ARCHT 10614130 Architectural Studio 2 4 Credits/Units**  
Continues development of students' design thinking. Deliverables and graphics focus on proper production of architectural construction documents. Course uses simple design projects as a framework to achieve outcomes. Prerequisites are Architectural Studio 1 & Architectural Software 1.
- ARCHT 10614145 Architectural Studio 4 4 Credits/Units**  
Covers the basic skills used in the building design process. Introduces the student to building siting and massing, program analysis, building circulation, space flow diagrams, adjacency studies, and building context. The design process continues with the integration of the structural steel framing. The student will design the framing plans as well as complete the calculations for the sizing of the individual steel members.
- ARCHT 10614154 Site Design 3 Credits/Units**  
Introduces the student to the basic design issues of the urban environment. Explore building massing and site analysis as they relate to the urban context. Learn about vehicular and pedestrian circulation, zoning analysis, contour manipulation and basic plant material selections. Course places a strong emphasis on in-class presentations utilizing the use of multimedia digital technology.
- ART 20815200 Art History: Ancient to Medieval 3 Credits/Units**  
Surveys the development of Prehistoric, Ancient through Medieval art and architecture found throughout Europe, the near East and Egypt. Emphasis is given to the form and meaning of a select group of artworks and buildings, their stylistic tendencies and respective movements in the history of art, and the socio-political and cultural contexts for these movements.
- ART 20815201 Basic Design 3 Credits/Units**  
Design Fundamentals introduces students to the elements of art (line, texture, color, shape and value). Students will investigate principles of design, composition and basic color theory in projects incorporating a variety of media. Instruction in Adobe Photoshop will also be incorporated into class projects.

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<b>ART 20815205</b>	<b>Drawing Fundamentals</b>	<b>3 Credits/Units</b>
This is an introductory drawing class emphasizing sound craftsmanship and the study of basic freehand drawing from direct observation. Class topics include the study of perspective, proportion, composition, and properties of light and shade. Students will explore a variety of drawing media and techniques.		
<b>ART 20815210</b>	<b>Art History: Renaissance to Modern</b>	<b>3 Credits/Units</b>
Surveys the development of European and American art and architecture from the time of the early Renaissance in Italy through the first quarter of the 20th century. Emphasis is given to the form and meaning of a select group of artworks and buildings, their stylistic tendencies and respective movements in the history of art, and the socio-political and cultural contexts for these movements.		
<b>ART 20815211</b>	<b>Art History: Women In Art</b>	<b>3 Credits/Units</b>
This course will present a broad survey of selected outstanding women artists from the 12th to the 20th century. The focus is on painting, sculpture and mixed media from the Medieval Era to the Modern Era, considering a variety of individual European and American artists and their works.		
<b>ART 20815215</b>	<b>Drawing 2</b>	<b>3 Credits/Units</b>
Drawing 2 explores a variety of drawing media and techniques through projects that encourage students to consider subject/content relationships. Students will develop conceptualization skills that will prepare them for working on independent projects.		
<b>ART 20815219</b>	<b>Life Drawing 1</b>	<b>3 Credits/Units</b>
Life Drawing introduces students to drawing the figure in a variety of situations. Students will use different drawing media and techniques as they explore both descriptive and expressive ways to depicting the human figure. Includes study of human anatomy.		
<b>ART 20815220</b>	<b>Life Drawing 2</b>	<b>3 Credits/Units</b>
Continuation of life drawing with emphasis placed on expression, articulation, dramatic effect and refinement of technique.		
<b>ART 20815221</b>	<b>Life Drawing 3</b>	<b>3 Credits/Units</b>
Continued emphasis on expression, articulation, and refinement of technique with increased attention to personalized direction.		
<b>ART 20815228</b>	<b>Art History: Global Arts</b>	<b>3 Credits/Units</b>
Analyze artworks produced around the world from ancient times through the contemporary. Consider artistic production, art criticism, cross-culture exchanges, and aesthetics, to deepen understanding of cultural differences and interactions. Explore a range of media and enhance sensitivity to visual and material forms. Develop a foundation in visual and material analysis.		
<b>ART 20815233</b>	<b>Digital Photography Independent Study</b>	<b>3 Credits/Units</b>
Students will work independently on digital photography projects under the supervision of an instructor.		
<b>ART 20815235</b>	<b>Creative Photography</b>	<b>3 Credits/Units</b>
Reviews and expands digital camera and Photoshop techniques. Expression through photography as a fine art is developed through a series of problems stressing personal vision and mastery of the photographic media.		
<b>ART 20815239</b>	<b>Digital Photography</b>	<b>3 Credits/Units</b>
Provides an introduction to the photographic process through the use of digital cameras to produce images for presentations, the World Wide Web, and electronic publication. Covers basic principles of effective composition, light, exposure and control of motion and focus. Participants provide their own digital camera.		
<b>ART 20815241</b>	<b>Painting 1</b>	<b>3 Credits/Units</b>
Introduces students to the basic techniques of oil painting, with emphasis on composition and color. Students will paint from classroom still life arrangements for the first part of the course. Later in the semester, students are encouraged to develop paintings that explore personal themes.		
<b>ART 20815242</b>	<b>Painting 2</b>	<b>3 Credits/Units</b>
Painting 2 is an intermediate level painting course emphasizing the development of conceptualization skills. Painting projects encourage students to respond to a general theme, subject, or concept by developing a unique and personal image. Students can respond to assignments by working in various paint media (oil, acrylic, watercolor, or collage).		
<b>ART 20815253</b>	<b>Jewelry 1</b>	<b>3 Credits/Units</b>
This course is an introduction to basic jewelry making techniques through technical demonstration and individual projects covering simple forming, fabricating, lost wax casting, cold forging and finishing techniques.		
<b>ART 20815254</b>	<b>Jewelry 2</b>	<b>3 Credits/Units</b>
Jewelry 2-Art Metal gives an introduction to silver smiting, chasing, repousse and advanced stone setting.		
<b>ART 20815290</b>	<b>Ceramics 1</b>	<b>3 Credits/Units</b>



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Ceramics 1 introduces clay as an art medium through demonstration and experimentation with basic hand-building methods. It encourages individual involvement with the media and emphasizes personal expression and exploration of texture, form and surface decoration. This course covers electric and raku firing, relevant vocabulary and some of the technical aspects of clay.

**ART 20815291** **Ceramics 2** **3 Credits/Units**  
Ceramics 2 covers either the development of basic wheel throwing skills or advanced hand-building techniques. Students work with glaze development through both judicious testing and empirical formulas. Electric firing and raku firing will be explored.

**ART 20815293** **Ceramics Independent Study** **3 Credits/Units**  
Students will work independently on ceramics projects under the supervision of an instructor. Instructor permission required.

**ART 20815294** **Ceramics Sculpture 1** **3 Credits/Units**  
Focuses on developing the ability to make by hand, ceramic sculpture through creative projects. Forming techniques, glazing and kiln stacking are an integral part of the class and are learned through hands-on activities. Students make creative and innovative sculpture in this laboratory class as well as research and critique works of art.

**ART 20815295** **Ceramics Sculpture 2** **3 Credits/Units**  
This course is a continuation of Sculpture 1.

**ART 20815296** **Ceramics Firing Techniques/Alternative Methods** **3 Credits/Units**  
The class will focus on different firing techniques. Techniques covered would be Raku, sawdust firings, the use of saggars at different temperatures, vapor glazes and primitive pit kilns, as well as more traditional luster firings and other low temperature techniques. Surface treatments to pots that enhance the uniqueness

of the firing would be stressed. Students will have the opportunity to build kilns and manage the firings themselves. If possible, the class would try to have pieces in, and help with, a wood firing and salt firing.

The class will meet in the Downtown Ceramics studio as well as at the

Commercial Ave Campus for some firings.

**ASTRON 20806253** **Astronomy: The Solar System** **4 Credits/Units**  
An introductory astronomy course covering the sky and celestial motions, ancient astronomy, the Copernican revolution, gravity and orbits, light and astronomical instruments and the solar system. Recommended evening observing sessions will also be included. (These are off campus meetings for star viewing with the school's binoculars and telescopes.)

**ASTRON 20806254** **Astronomy: Stars & Galaxies** **4 Credits/Units**  
An introductory astronomy course covering gravity, light and astronomical instruments, our Sun, stars and stellar evolution (including nebulae, supernovae, white dwarfs, pulsars, and black holes), Milky Way and other galaxies, and cosmology (history, structure, and fate of the universe, big bang theory). Some optional evening observing sessions may also be included (off campus meetings for star viewing with the school's binoculars and telescopes).

**AUTMFG 10628168** **Robotics for Industrial Automation 2** **2 Credits/Units**  
FANUC Robotics based advanced study of applications, operation, programming and troubleshooting of Industrial Robots. Prepares the learner to establish and modify robot axis soft limits; navigate the teach pendant to set up the robot for automatic operation; define the Frames of reference used by the coordinate system; create multiple Tool Frames; create a program file; write a functional motion instruction; edit, copy and delete an existing program; demonstrate the use of a wait statement; demonstrate the use of a Call statement; demonstrate the use of an Output statement; and upload and download program memory files. Backup and restore the Controller image

**AUTMFG 10628170** **Robotics for Industrial Automation 1** **1 Credits/Units**  
FANUC Robotics based introductory study of applications, operation, programming and troubleshooting of Industrial Robots. Prepares the learner to identify the component parts of a robot; describe teach pendant and robot functions; power up the robot control in proper sequence; jog in Joint and Cartesian movement; identify axis movements; navigate the teach pendant to set up the robot for desired movement; demonstrate working knowledge of arm speed and inching control; select the Frames of reference used by the coordinate system; edit an existing program.

**AUTMFG 10628172** **Vision for Robotics in Industrial Automation** **2 Credits/Units**  
This course prepares the learner to program a vision systems as a stand-alone solution and integrate into robotic systems. The student will receive instruction on general vision concepts, including camera setup, lighting, lensing, 2D Single & 2D Multiple View Process and perform hands-on programming with industrial vision systems.

**AUTMFG 10628302** **Integration Introduction** **2 Credits/Units**

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The planning, documenting, fabrication, assembly and programming of electro-mechanical components is used to introduce students to the principles of integrating automated machines. This course applies the project management, and CAD 2D skills related to electro-mechanical automated systems. The study of motion sequences and control drawings as well as Gantt chart creation and application will be used within this class. Machine efficiencies and trouble-shooting of desktop electro-pneumatic controls is applied.

<b>AUTMFG 10628401</b>	<b>PLCs for Industrial Automation 1</b>	<b>1 Credits/Units</b>
Introductory study of PLC Programming overview (parts, principles of operation, size and applications), PLC components (I/O modules, specifications, CPU, memory, programming options), Number systems and codes (binary, decimal, hexadecimal, BCD, ASCII, binary arithmetic), Fundamentals of Logic (binary concept, AND, OR, NOT functions, Boolean algebra, logic gates, word level instructions), Basics of programming in RSLogix500 (memory organization, program scan, programming languages, instruction addressing, XIC, XIO, OTE instructions, creating ladder logic), PLC installation practices, editing, and troubleshooting (enclosures, electrical noise, grounding, voltages, program editing, program monitoring, preventive maintenance, troubleshooting, connecting to your PLC to your PC)		
<b>AUTMFG 10628402</b>	<b>PLCs for Industrial Automation 2</b>	<b>1 Credits/Units</b>
Intermediate knowledge of programmable logic controller (PLC) installation, interfacing, operation, and programming in RSLogix500. Timer instructions (ON-delay, OFF-delay, RTO, cascading timers), Counter instructions (Counter-up, Counter-down, cascading counters, combining counter and timer functions), Data manipulation (Math instructions), Program control instructions (MCR, jump, subroutines, forcing, safety circuit, temporary end, fault routine), computer controlled machines and processes (communication fundamentals) RSLinx communications, Introduction to RSLogix5000 and ControlLogix programming).		
<b>AUTMFG 10628403</b>	<b>Programmable Automation Controller 1</b>	<b>2 Credits/Units</b>
Advanced programmable logic controller (PLC) installation, interfacing, operation, and programming (RSLogix5000). Students learn how to connect advanced PLCs in a typical industrial PLC network utilizing Ethernet, ControlNet, DeviceNet, RS232 and RIO communication paths. Data sharing and distributed PLC programming techniques along with fundamentals of touch panel programming, VFD integration and operation are studied.		
<b>AUTMFG 10628404</b>	<b>Programmable Automation Controller 2</b>	<b>2 Credits/Units</b>
Advanced programmable logic controller (PLC) programming (RSLogix5000). Students learn how to connect advanced PLCs in a typical industrial network, integrating touch panel programming, VFD and Servo motion control. Programming PLCs utilizing Function Block Diagram are studied. Students gain an understanding of SCADA and MES system and PID loops. Students are introduced to a variety of intelligent sensors and vision systems.		
<b>AUTMFG 10628420</b>	<b>Introduction to Logic &amp; Troubleshooting</b>	<b>1 Credits/Units</b>
The course introduces basic troubleshooting tools, methods and techniques. Students will learn about interpreting schematics, Boolean logic, truth tables, and number systems. The course uses software simulations and labs to introduce relays and relay ladder logic. Students apply common troubleshooting techniques and root cause analysis.		
<b>AUTMFG 10628450</b>	<b>Integration of Mechanisms and Controls 1</b>	<b>4 Credits/Units</b>
The student will apply the concepts of robots and automation by building a small automation system. This automation cell will be accomplished within the framework of an assigned team of students. Student will apply learned concepts studied in previous classes. These concepts will assist in building, testing, and running their automated work cell. Student will develop, and apply project planning, time management and cooperative methods with their team members to build their work cell. Student will learn how to design and make parts for this project. Student also will specify and purchase parts as well as, analyze system malfunctions, which may occur to the modular level. Student will practice the skills needed to interface and make repairs.		
<b>AUTMFG 10628451</b>	<b>Integration of Mechanisms and Controls 2</b>	<b>4 Credits/Units</b>
Focuses on integration of a complete manufacturing cell. Typical components include programmable controllers, robot, sensors, drives, conveyors, pneumatics, hard automation, control wiring and vision. Students plan, wire, program, troubleshoot and develop documentation for the whole system.		
<b>AUTMFG 10628500</b>	<b>Introduction to HMI and SCADA Development</b>	<b>2 Credits/Units</b>
This class is designed to give students the knowledge necessary to troubleshoot and maintain a SCADA (supervisory control and data acquisition) system. This includes control strategies, controllers and IO, as well as system software database connections and HMIs.		
<b>AUTMFG 50664718</b>	<b>Automation for Apprentices</b>	<b>2 Credits/Units</b>
Examine industrial automation and applications to various trades. Automation terminology, concepts and applications will be examined. Automated systems, components and devices will be reviewed. Robotics used in modern manufacturing plants will be compared and analyzed. Job duties and tasks associated with safety, inspection, testing, maintenance, repair and servicing will be the primary emphasis.		
<b>AUTOBODY 32405301</b>	<b>Basic Sheet Metal Repair &amp; Welding Fundamentals</b>	<b>5 Credits/Units</b>

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Course material covers the introduction in the use of an oxyacetylene welding/cutting outfit as related to collision repairs. A heavy emphasis is placed on the mig welding process, types of welds and techniques used of hammer and dolly, pry tools, stud guns, air and electrical tools, hydraulic-porto-power jacks and other straightening tools, used in the processes of metal finishing and plastic filling.

**AUTOBODY 32405302 Refinishing 1 5 Credits/Units**  
The refinishing phase includes instruction in the proper use and maintenance of the spray gun, refinishing panels and fenders, spot repairing of panels and fenders, and mixing of paint formulas. Application of primers, sealers, single stage, and coat/clear coat are covered. Instruction in shop, tool and paint safety, and state and federal environmental concerns are presented.

**AUTOBODY 32405303 Non-Structural Panel Repair & Glass Servicing 5 Credits/Units**  
Further development of straightening skills and sheet metal alignment is achieved by performing these activities on automobiles. Such operations as straightening damages sheet metal on fixed parts and removable panels are performed. Instruction on the replacement of fixed glass such as windshields, rear window, and side glass is covered using industry standards. Further instruction includes the components and procedures involved in the removal and installation of movable glass.

**AUTOBODY 32405304 Refinishing 2/Trim & Hardware 5 Credits/Units**  
The refinishing phase includes further instruction in the proper use of the spray gun, performing partial and complete refinishing repairs on vehicles. Procedures for blending and tinting of the paint to achieve an acceptable color match are practices. Shop and paint safety practices are emphasized. Instruction on the safe removal and installation of trim and hardware is covered along with specialty tools necessary to perform operations using industry accepted procedures.

**AUTOBODY 32405305 Auto Refinishing/Color Adjustment 5 Credits/Units**  
Vehicle refinishing techniques including preparing adjacent panels for blending, base coat and clear coat blending, color adjustment and testing color match. Complete refinishing and panel blending is performed on repaired vehicles.

**AUTOBODY 32405306 Collision Structural Welding & Panel Replacement 5 Credits/Units**  
Structural damage analysis, measuring vehicle dimensions, pulling and straightening vehicle structures. Replacement and alignment of non-structural panels will be performed on vehicles. Collision structural section joints will be constructed and welded (GMAW).

**AUTOBODY 32405307 Adv Collision Structural Repair 5 Credits/Units**  
Application of replacement procedures for structural panels such as front and rear rails, rocker panels, A-pillars, B-pillars, and floor pans. Servicing and removal of drivetrain, suspension steering and other related components utilizing industry accepted procedures. Understanding suspension and wheel alignment angles and diagnostic procedures.

**AUTOBODY 32405308 Collision Plastics/Composites & Adv Refinishing Applications 5 Credits/Units**  
Identification of automotive plastics, repair decisions, using adhesives and welding to repair plastics. Refinishing techniques include refinishing plastic, multi-stage finishing, and advance blending techniques and custom painting options.

**AUTOBODY 32405311 Introduction to Airbrushing and Custom Painting 2 Credits/Units**  
This course is for the student who has little or no airbrush experience and to teach the student to disassemble, clean and set-up his or her own airbrush. Provides instruction in paint mixture and how different reducers affect the end result (cleanliness, etc.) This course also demonstrates practice drills and proper techniques for brush strokes towards building control and skill.

**AUTOBODY 32405321 Advanced Airbrushing and Custom Painting 2 Credits/Units**  
Go in-depth in paint mixture, practice drills and proper techniques for airbrush strokes towards building control and skill. Includes types and methods of stencil use, from hand taping to computer cut materials, as well as overviews of commonly found "hand held" barriers and masks that provide some simple background and fill techniques. We cover "stacking" or use of multiple piece stencils to create popular graphics. Techniques in aging or patina with airbrush. Explore color variation using known theory and methods to build eye pleasing color schemes. Hand Stripping: learn the proper set-up for paint mixture and brush shaping which is vital to the art of fine lining, outlining graphics or lettering. An overview of "gold leafing" and other special effects are presented.

**AUTOBODY 32405334 Collision Damage Analysis and Report Writing 3 Credits/Units**  
This course includes damage analysis, vehicle identification, estimate writing sequence, use of estimation guide for parts and labor costs, and writing damage reports manually and with a computer. Each student has the opportunity to estimate damaged vehicles.

**AUTOBODY 32405340 Collision Electrical Fundamentals 2 Credits/Units**  
This course is an introduction to automotive electrical systems, including basic electricity, trouble shooting and repair of common electrical circuits, wiring diagrams, soldering, power accessories and restraint systems. Standards for safety when working with electrical systems is emphasized.

**AUTOBODY 32405341 Collision Mechanical Systems 2 Credits/Units**

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Covers basic operations and servicing principles of brake systems, fuel and exhaust systems, heating and cooling systems, suspension and steering systems, and automotive air conditioning principles including components that make up an AC system. Regulations regarding discharging/recharging and trouble shooting as related to collision repair are also included. Safety practices regarding mechanical systems are covered.

**AUTOBODY 32405361**                      **Collision Repair/Refinishing Theory 1**                      **3 Credits/Units**  
Covers related information on all phases of auto body welding and metal straightening with hand tools and hydraulic equipment. Collision damage analysis of sheet metal and unibodies is studied. Different types of sheet metal, such as HSS and HSLA, as well as the properties of sheet metal are discussed. Where and how to use plastic filler is presented. Paint equipment such as the operation and maintenance of the spray gun is studied. Extensive discussion takes place on refinish products, surface preparation, sanding and polishing, thinners and reducers and top coat application. Instruction in shop, tool, paint safety, and state and federal environmental concerns and regulations are presented.

**AUTOBODY 32405363**                      **Collision Repair and Refinishing Theory 2**                      **3 Credits/Units**  
To further promote knowledge of repair skills related to auto collision repair and refinishing, the following discussion areas are included: the evaluation of automobile bodies and damage repair techniques, unibody construction and repair techniques, vehicle preparation, metal correction and parts replacement. Additional instruction includes glass installation, electrical accessories, door and window servicing and trim replacement.

**AUTOBODY 32405365**                      **Collision Repair and Refinishing Theory 3**                      **3 Credits/Units**  
Introduces the computer electronic system for repair of unibody vehicles, and proper anchoring and pulling procedures. Instruction on removing and replacing drivetrain components is included. The proper care and protection of on-board computers in autos is stressed. Sheet metal alignment, and frame and unibody straightening, along with procedures for restoring severely damaged vehicles are studied.

**AUTOTEC 10602100**                      **Automotive Fundamentals**                      **2 Credits/Units**  
Students are introduced to the automotive service industry and learn service information to perform basic under-hood and under-car services. This class also focuses on developing skills in the automotive profession, safety, and the use of basic and power tools and equipment in accordance with industry standards.

**AUTOTEC 10602101**                      **Automotive Service Procedures**                      **3 Credits/Units**  
Service Repair includes the theory, design and operation of the automobile engine, this course includes maintenance, light-duty repair and safety inspections. Engine lubrication, cooling and exhaust systems are also studied and serviced.

**AUTOTEC 10602115**                      **Hybrid and Alternative Fueled Vehicles**                      **2 Credits/Units**  
This course provides: a brief history of electric and hybrid electric vehicles, electric/hybrid electric vehicle safety procedures and equipment; components and current vehicle overview; hybrid electric vehicle components; current design configurations, current and near future vehicles; an introduction to electric/hybrid electric vehicle test equipment and procedures; and an introduction to electric/hybrid electric vehicle maintenance and trouble shooting. Also, Diesel, alternative fuel systems, including CNG and Fuel Cell, and related components are covered.

**AUTOTEC 10602125**                      **Electrical and Electronics Systems 1**                      **2 Credits/Units**  
The automotive repair industry demands that technicians have a proficient understanding of the electrical systems which are at the heart of today's vehicles. Students are introduced to basic electricity fundamentals in accordance with industry standards and then apply the concepts to vehicle circuits and components.

**AUTOTEC 10602126**                      **Electrical and Electronics Systems 2**                      **2 Credits/Units**  
This automotive course focuses on developing the skills needed to diagnose, service, and repair electrical and electronic systems, including batteries, starting and charging systems, lighting systems, horn and wiper systems, and introduction to computer control systems.

**AUTOTEC 10602150**                      **Internal Combustion Engines**                      **5 Credits/Units**  
The internal combustion automotive engine is studied in detail by discussion, demonstration and laboratory experiments. The latest machining equipment is used to accurately diagnose, disassemble, repair and reassemble an automobile engine. Diagnosis of engine related mechanical problems is covered.

**AUTOTEC 10602152**                      **Driveability 2**                      **5 Credits/Units**  
Practical application of principles, concepts and diagnostic abilities covered in the 2 prerequisite courses. Advanced electrical/electronic diagnostic applications will reinforce prior competency development.

**AUTOTEC 10602153**                      **Manual Drivetrains & Axles**                      **4 Credits/Units**  
The operation and theory of clutches, transaxles, standard transmissions, drivelines and differentials are covered. Areas of emphasis include diagnosis, repair, testing and periodic maintenance as recommended by major manufacturers. Classroom and shop time is utilized to develop skills in diagnosis and repair of clutches, drivelines and differentials.

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<b>AUTOTEC 10602154</b>	<b>Automatic Transmissions</b>	<b>5 Credits/Units</b>
This automotive course focuses on developing the skills needed to diagnose, service and repair automatic transmissions/transaxles including overhaul procedures.		
<b>AUTOTEC 10602156</b>	<b>Automotive Heating &amp; Air Conditioning Systems</b>	<b>2 Credits/Units</b>
Study includes basic principles of refrigeration and air conditioning including the component parts that make up the A/C units on passenger cars and light trucks. Heating and automatic temperature controls are also studied. Students will receive State of Wisconsin AG 136.09 certification upon completion of this course.		
<b>AUTOTEC 10602157</b>	<b>Technical Braking Systems</b>	<b>5 Credits/Units</b>
Topics include principles of drum and disc brake designs, inspection and diagnosis. Covers wheel and tire diagnosis and repair. Steering and suspension safety inspection is covered. Lab experiences including inspecting, troubleshooting and the repair and replacement of defective or worn parts of the complete brake system. The use of correct procedure and tools is stressed.		
<b>AUTOTEC 10602158</b>	<b>Service Management</b>	<b>1 Credits/Units</b>
The principles of various types of business organizations are examined and applied to automotive wholesale and retail businesses, ultimately focusing on the automobile as part of the service department. Service department operation is covered in detail and depth from large organizations to small organizations. The conventional line method of management is stressed. Employment possibilities and job interviewing techniques are discussed.		
<b>AUTOTEC 10602162</b>	<b>Automobile Accessories</b>	<b>2 Credits/Units</b>
Examines equipment supplied by both major manufacturers of automobiles and after-market suppliers. Classroom and lab activities help students to understand basic electricity, electric circuits and use of test equipment to troubleshoot problems in circuits such as lighting, windshield wipers, power windows, instruments and cruise control.		
<b>AUTOTEC 10602163</b>	<b>Steering and Suspension Systems</b>	<b>5 Credits/Units</b>
Principles of suspension designs, wheel alignment angles, inspection procedures, parts replacement, steering systems, shock absorbers/struts, sway bars and frame design. On-the-job experiences include inspecting and correcting suspension angles, parts replacement, adjusting steering gears. Covers four-wheel alignment.		
<b>AUTOTEC 10602166</b>	<b>Driveability 1</b>	<b>5 Credits/Units</b>
All engine operating systems are studied: engine breathing, ignition systems, computer control and sensors, fuel and air management and emission systems. Students learn how these systems operate, how to test for proper operation of systems and components, and how to use test equipment.		
<b>BAKING 10314130</b>	<b>Dessert Plating</b>	<b>1 Credits/Units</b>
Students learn the art of plating desserts in modern contemporary format. Working with various dessert components, students will gain a hands on experience on how to apply plating techniques to desserts.		
<b>BAKING 31314302</b>	<b>Yeast Breads</b>	<b>3 Credits/Units</b>
Students develop manual baking skills and a working knowledge of the production and finish various yeast doughs including straight doughs and pre-ferments. Students learn both handcrafted and machine methods in the make-up of these products.		
<b>BAKING 31314305</b>	<b>Chocolate</b>	<b>2 Credits/Units</b>
Students are introduced to the world of chocolate. The history and production of chocolate is explored. Learners sample a wide variety of chocolates from different companies, as well as specific types of chocolate. Products are made using these different chocolates and then compared and evaluated. Students will also learn how to make a variety of seasonal candies.		
<b>BAKING 31314306</b>	<b>Bakery Retail</b>	<b>1 Credits/Units</b>
The lab is used as a simulated bakery in this course with products being merchandised through the bakery store. Students are responsible for service case presentation as well as effective merchandising displays and customer service.		
<b>BAKING 31314309</b>	<b>Baking Principles</b>	<b>2 Credits/Units</b>
Students in this course will acquire a general understanding of basic baking principles. The functions of the major ingredients used in baking and pastry making are discussed, as well as the different types of bakery products. Students learn about the methods for producing bakery products as well as the equipment, both machine and hand tools required. Baker's math problems are calculated.		
<b>BAKING 31314315</b>	<b>Intro to Baking</b>	<b>3 Credits/Units</b>
Students develop a foundation of baking principles through hands-on application of production equipment in a state-of-the-art baking lab. Students will prepare a variety of standard bakery products to obtain knowledge of many baking processes. Safe use of bakery equipment and proper sanitation procedures are emphasized.		
<b>BAKING 31314335</b>	<b>Specialty Cakes &amp; Miniatures</b>	<b>3 Credits/Units</b>





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General Microbiology gives a broad overview of the structure, function, ecology, nutrition, physiology and genetics of microorganisms. The course looks at the many roles microorganisms play in our lives, including their association with various diseases (including cancer), and the importance of the human microbiome. The course also covers microbial fermentation and recombinant DNA technologies. Due to the constantly changing information as to how microbes play a vital role in our everyday lives, this course is regularly updated.

**BIOLOGY 20806276**                                 **Principles of Genetics**                                 **4 Credits/Units**  
An introduction to the basic concepts of heredity and cytogenetics including Mendelian, molecular, developmental, and population genetics, genetic engineering and chromosome behavior. Topics include complementation and linkage analysis, gene mapping, library screening, bacterial transformation, plaque assay, restriction analysis, PCR, and sequencing. Lab complements the lecture and provides experiences in molecular genetics laboratory techniques as well as utilization of analytical and simulation model systems.

**BIOLOGY 20806280**                                 **Environmental Issues**                                 **3 Credits/Units**  
Environmental Issues is an introductory (non-laboratory) survey course entirely appropriate for first-year students. Environmental Issues explores diverse problems of human impact on natural systems. Though fundamentally grounded on the basic principles of biology and ecology, this course is designed to encourage interdisciplinary thinking about critical environmental problems. Students explore chemical, biological, political and ethical interactions of environmental systems on scales that range from local to international. The course prepares students for Principles of Ecology and other more advanced courses in Environmental Studies. This course transfers to UW–Madison at the elementary level.

**BIOLOGY 20806281**                                 **Ecology/Conservation Biology**                                 **3 Credits/Units**  
Ecology and Conservation Biology is an intermediate-level (non-laboratory) course, most appropriate for second-year students. A basic knowledge of ecosystem structure and function is used as a springboard to grasping the impact of human activities on natural populations. Emphasis is on computer modeling of endangered species, dwindling populations of endemics, species under threat of over-harvesting, and other groups at risk. This course requires the background knowledge of an introductory environmental science course. This course transfers to UW Madison at the intermediate level as Zoology/Wildlife Ecology 360. Offered during the fall semester.

**BIOLOGY 20806286**                                 **Environmental Science**                                 **4 Credits/Units**  
Environmental Science is an introductory survey course appropriate for first-year students. This course includes a laboratory component and field trips designed to engage students in exploring environmental systems in the modern world. It emphasizes the interpretation of environmental data presented in graphs and figures and will sharpen student analytical skills through exercises based on both quantitative reasoning and reading comprehension. This course transfers to UW–Madison at the elementary level as IES 126.

**BIOTECH 10007103**                                 **Biotechnology Laboratory Skills for a Regulated Workplace**                                 **3 Credits/Units**  
Covers basic concepts and techniques necessary to work effectively in a biotechnology lab. The importance of quality regulations and standards and the role of the technician in producing quality results are emphasized. Laboratory math is introduced and applied. Students learn basic techniques including: measuring, weighing, mixing solutions, following and writing procedures, keeping records, making observations, and using instrument manuals and catalogues. Principles of metrology (measurement) are introduced and students practice using, calibrating and verifying the performance of instruments. Lab included. Co-requisite: 10-806-127 or 10-806-134, and 10-007-136 or consent of instructor.

**BIOTECH 10007104**                                 **Chromatography Techniques**                                 **3 Credits/Units**  
Introduces the basic concepts involved in separation of biomolecules. Students complete lab work using a variety of chromatographic methods including: paper, thin layer, gel permeation, gas and high performance liquid chromatography. Students also learn to interpret chromatographic results and practice documentation and reporting skills. Lab included.

**BIOTECH 10007105**                                 **Bioprocess Technology**                                 **3 Credits/Units**  
Covers basic techniques of fermentation technology, including the principles of isolation, identification, improvement, preservation and growth of industrial microorganisms. Emphasizes the use of fermentation equipment to obtain products.

**BIOTECH 10007108**                                 **Hazardous Materials - Biotechnology**                                 **1 Credits/Units**  
Surveys potential laboratory hazards and safety procedures. Covers regulation of chemicals: flammable, reactive, corrosive and toxic substances.

**BIOTECH 10007110**                                 **Biotechnology Applications**                                 **1 Credits/Units**  
Provides a broad introduction to biotechnology including the scientific basis of the technologies and their historical development with an emphasis on current applications in the areas of agriculture, medicine, forensics and the environment.

**BIOTECH 10007111**                                 **Biotechnology Career Seminar**                                 **1 Credits/Units**  
Includes a discussion of national, state and local biotechnology industries, career options, the ethical, legal and societal issues raised by the use of biotechnology and the regulatory agencies that oversee the industry.



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<b>BIOTECH 10007112</b>	<b>Biotechnology Employment Skills</b>	<b>1 Credits/Units</b>
Discusses the specific skills needed for particular areas and careers, ethical issues and the business of biotechnology including the basics of intellectual property law. Each student gives a presentation on their occupational work experience.		
<b>BIOTECH 10007115</b>	<b>General Cell Biology</b>	<b>4 Credits/Units</b>
Introduction to cells, emphasizing their structure, diversity, chemistry and physiology. Processes of cellular respiration, photosynthesis and division are discussed. Describes genetic principles and molecular activities involved in DNA, RNA and protein synthesis. Lab included.		
<b>BIOTECH 10007117</b>	<b>Advanced Human Stem Cell Methods</b>	<b>3 Credits/Units</b>
Students will continue to maintain and characterize the hESC embryoid bodies generated in Course I. Observations and relevance for spontaneous hESC differentiation will be discussed in detail. Methods for directed differentiation of hESC, iPSC, and adult stem cells into neurons and cardiomyocytes will be introduced. An emphasis on photo-documentation and assembly of a portfolio of results and observations will be submitted for evaluation.		
<b>BIOTECH 10007118</b>	<b>Introduction to Human Stem Cell Concepts</b>	<b>1 Credits/Units</b>
Provides an historical perspective on the identification and use of stem cells, emphasizing practical applications towards regenerative biology in research and industry. Review and discuss scientific articles that establish the foundation for working with stem cells for regenerative medicine, applied and basic research. Prerequisite: General Cell Biology, 10-007-115, or consent of instructor.		
<b>BIOTECH 10007119</b>	<b>Advanced Human Stem Cell Concepts</b>	<b>1 Credits/Units</b>
Introduction of emerging methodologies in the stem cell field, to include adult stem cells, iPSC technologies, relevant cell signaling pathways, and cell differentiation. Current research and industry applications will be discussed. Survey the scientific and popular press to introduce emerging themes and applications in the field of stem cells. Prerequisite: Introduction to Human Stem Cell Concepts, 10-007-118, and General Cell Biology, 10-007-115, or consent of instructor.		
<b>BIOTECH 10007121</b>	<b>Applied Biochemistry</b>	<b>3 Credits/Units</b>
Introduction to major chemical constituents of cells including proteins, carbohydrates, lipids and nucleic acids. The structure and kinetics of enzymes, reaction mechanisms and metabolic pathways are also included. Lab included.		
<b>BIOTECH 10007122</b>	<b>Protein Bioseparations Methods</b>	<b>3 Credits/Units</b>
Introduces the strategies to purify proteins as part of a biotechnology process. Methods include: specific activity assays for enzymes, extraction of proteins from bacterial cells, salting out, dialysis, ion exchange chromatography and polyacrylamide gel electrophoresis. Lab included. Prerequisites: Biotechnology Laboratory Skills, 10-007-103; Chromatography Techniques, 10-007-104; and Chemistry 2, 10-806-129 (or Chemistry for Biotechnology, 20-806-216); or consent of instructor.		
<b>BIOTECH 10007123</b>	<b>Cell Culturing</b>	<b>3 Credits/Units</b>
Covers the basic techniques of plant and animal cell culture. Plant unit includes media preparation isolation of explants and establishment of callus from suspension cultures, growth factor bioassays, regeneration of whole plants from tissue and plant genetic engineering techniques. Mammalian cell unit includes media preparation, maintenance of cultured cells, transfection of cultured cells, cloning, monoclonal antibody production, and ELISA assays. Lab included. Prerequisite: 10-007-115 or consent of instructor.		
<b>BIOTECH 10007124</b>	<b>Molecular Biology 1</b>	<b>3 Credits/Units</b>
This is the first course of a two-part series. This course will teach modern molecular biology techniques including: basic recombinant DNA techniques and DNA analysis and purification. The polymerase chain reaction and DNA fingerprinting will also be introduced. This course will include classroom instruction to appreciate the importance of these techniques in life sciences research.		
<b>BIOTECH 10007125</b>	<b>Research Methods in Molecular Biology</b>	<b>3 Credits/Units</b>
This is the second course of a two-part series. This course will teach advanced techniques in molecular biology including: Various applications of PCR, PCR-based cloning, RT-PCR, qPCR, site-directed mutagenesis, RNA isolation, screening techniques, and an introduction to bioinformatics. The course will combine practical laboratory experience with discussion of current research problems and techniques.		
<b>BIOTECH 10007126</b>	<b>Occupational Work Experience</b>	<b>3 Credits/Units</b>
Students work in a biotechnology laboratory. Emphasizes the integration of academics and practice experiences. Pre-requisite: successful completion of all program courses in the first three semesters of the program, successful completion of a performance exam, and instructor consent.		
<b>BIOTECH 10007136</b>	<b>Laboratory Math for Biotechnology</b>	<b>1 Credits/Units</b>

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This course introduces mathematical tools that are used in the biotechnology laboratory. Students apply mathematical concepts to solve problems such as: calculating amounts of chemicals required to make solutions, graphing and interpreting data, and calibrating instruments. Basic statistical concepts may also be introduced.

**BIOTECH 10007137**                      **Selected Topics in HPLC**                      **1 Credits/Units**  
The course covers fundamental concepts of HPLC analysis including hardware basics, analysis modes, column chemistry, sample preparation and quantitation, as well as protein analysis and peptide mapping. Troubleshooting, interrogation of poor peak shape and retention problems are a fundamentally important part of the course, as well as method validation and data analysis.

**BIOTECH 10007152**                      **Making Biotech Products in a Quality Environment**                      **2 Credits/Units**  
Proposed to review and further illustrate the importance of quality in a laboratory environment, with special emphasis on how a quality system directly impacts laboratory scientists. This laboratory-based course will revolve around the creation of a product to be used in other courses in the biotechnology curriculum. Students will create the product, as well as monitor the quality of the process. Time constraints would mean that not every aspect of a quality system could be modeled or discussed; however, even a single course in this area would be invaluable to our students for both review of concepts and employability.

**BIOTECH 10007155**                      **Quality Regulations and Standards for Biotechnology**                      **2 Credits/Units**  
This course will cover the history of quality systems (cGMP, GLP, GCP, ISO 9000) and their implementation in the workplace. Emphasis will be placed on the impact of these quality systems on the laboratory technician. Students will also have the opportunity to study regulations and examine the process of disciplinary action under these systems. Current case studies will illustrate the role of governmental and non-governmental oversight in ensuring the quality of the products of regulated workplaces.

**BIOTECH 10007174**                      **Applied Microbiology**                      **4 Credits/Units**  
This survey course includes the structure, function, ecology, nutrition, physiology, and genetics of microorganisms in industrial, agricultural, food and medical microbiology. It also includes an introduction to standard techniques and procedures used in the microbiology laboratory.

**BRCKMSN 50408510**                      **Tech Brick Sem 1**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**BRCKMSN 50408511**                      **Tech Brick Sem 2**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**BRCKMSN 50408512**                      **Tech Brick Sem 3**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**BRCKMSN 50408513**                      **Tech Brick Sem 4**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**BRCKMSN 50408514**                      **Tech Brick Sem 5**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**BRCKMSN 50408515**                      **Tech Brick Sem 6**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**BUSADM 10102104**                      **Business Statistics**                      **3 Credits/Units**  
Introduces the theory of and application to basic statistical methods. Emphasizes solving practical business problems. Topics include basic measures, probability, sampling and time series analysis. Knowledge of Excel strongly recommended.

**BUSADM 10102114**                      **Business Communication**                      **3 Credits/Units**  
Learners will develop, practice and apply business and managerial communication skills and tactics. Topics include active listening; concise business writing and speaking; non-verbal communication and body language; adapting social styles; successfully managing difficult ("crucial") conversations and conflict; customer interactions including handling customer complaints; working with diverse others; bias, stereotypes and workplace harassment; negotiation tactics; business networking, persuasive speaking, video conferencing, shared documents and conducting coaching/performance evaluations.

**BUSADM 10102131**                      **Project Management and Sustainable Change**                      **3 Credits/Units**  
In Project Management and Sustainable Change, the learner extends their learning from Project Management – Fundamentals by looking deeper into how to affect change by understanding change management models, tools and current principals to realize successful and sustainable changes to enhance business value.

Each learner will demonstrate the application of assessing the current change environment and develop change management strategies and process. In addition students will analyze the effect of perceptions, attitudes, biases, and organization culture on project outputs and outcomes, dealing with barriers, and develop strategies for managing a diverse workforce to affect sustainable change.

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<b>BUSADM 10102132</b>	<b>Strategic Leadership</b>	<b>3 Credits/Units</b>
<p>This capstone course for the Business Management program is designed to integrate and enhance skills and behaviors learned throughout the curriculum. Students gain insights from key leadership experts related to leading oneself, others, and organizational change, and apply these insights through an In-Box simulation where they are responsible for all aspects of "turning around" a failing business. A computer business simulation, where students compete against each other, reinforces learnings from prior courses and enhances an overall business perspective. Course includes an exercise in deep self-reflection, designed to build student resolve and ability to be a "high-integrity" ethical leader.</p>		
<b>BUSADM 10102133</b>	<b>Topics in Tactical Management</b>	<b>3 Credits/Units</b>
<p>Focuses on refining and building students' operational management skills. The use of data analysis and research tools to solve business problems and improve performance is emphasized. Students learn tools to "listen to the customer" and use data to recommend strategies and tactics to improve and exceed customer expectations. The course explores quality systems and continuous improvement tools including Lean, Six Sigma, ISO, CQI, with an emphasis on their application to improve business processes.</p>		
<b>BUSADM 10102134</b>	<b>Introduction to Business</b>	<b>3 Credits/Units</b>
<p>This foundation course covers core concepts related to business strategy, marketing, operations and finance, as well as their interrelationships within an organization. Case studies and a computer business simulation are used to deepen student understanding. Corporate culture and the International dimension of business are also covered. An Ethics framework, which will be further explored in upper-level Program classes is introduced, along with a focus on the means businesses use to promote and enforce ethical behavior.</p>		
<b>BUSADM 10102135</b>	<b>Project Management - Fundamentals</b>	<b>3 Credits/Units</b>
<p>This is introductory Project Management class develops skills to manage a project from start to finish using the following project management skills: defining projects; planning projects; scheduling projects; monitoring and controlling projects; project closure; and leading projects. Emphasis will be placed on applying these fundamentals, as both a participant and project leader, in case studies and group projects, using worksheet templates, project software tools and Microsoft Project software. Skills covered include but are not limited to project charters, Gantt Charts, critical paths, milestones, risk control and prioritization, project acceptance and closeout, teamwork and problem solving.</p>		
<b>BUSADM 10102143</b>	<b>Management Techniques</b>	<b>3 Credits/Units</b>
<p>Focuses on the two keys to effective management: results and relationships, in the context of the traditional managerial elements of planning, organizing, directing and controlling. Students learn techniques for problem solving, critical thinking, decision-making, delegation, motivation, change management, and political savvy behavior, and apply these techniques through simulations, role-plays, and case studies. The course also emphasizes development of Emotional Intelligence ("EI"), including self-assessment, as well as learning and applying specific techniques to improve each element of EI.</p>		
<b>BUSADM 10102154</b>	<b>International Business Procedures</b>	<b>3 Credits/Units</b>
<p>How to get help with international transactions. Topics include terminology, agencies and publications, dealing with agencies and complying with legal requirements, terms of sale and terms of payment, transportation and documents.</p>		
<b>BUSADM 10102160</b>	<b>Business Law 1</b>	<b>3 Credits/Units</b>
<p>This survey course covers legal principles used in the business world. Major emphasis is placed on contracts along with torts, federal and state courts, criminal law, marital property and bankruptcy and wills. The course is taught on a level suitable for an associate degree student. Federal, state and case law serve as the basis of study.</p>		
<b>CABMIL 31409100</b>	<b>Laminates 2</b>	<b>1 Credits/Units</b>
<p>This course covers the process of fabricating custom plastic laminate countertops including seaming and inlaying. Students will learn a variety of tooling and fabrication techniques to produce solid wood, decorative, miter-fold, custom-bevel, and post-formed edge treatments.</p>		
<b>CABMIL 31409101</b>	<b>Surfaces 1</b>	<b>1 Credits/Units</b>
<p>This course will take the learner through the process of fabricating a countertop with solid surface (Corian). Students learn about the advantages and limitations of solid surface material in different applications, and types of adhesives for seaming and installation. Students will learn tooling and fabrication techniques for various edge treatments, fabricate a coved backsplash, make a cut-out for an appliance, as well as inlay and repairing solid surface.</p>		
<b>CABMIL 31409102</b>	<b>Surfaces 2</b>	<b>1 Credits/Units</b>
<p>This course covers the process of working with fiber phenolic resin and wood countertops. Students will learn how to fit, seam, fabricate edges, install and finish fiber resin countertops, and fabricate butcher-block and breadboard-end wood surfaces.</p>		
<b>CABMIL 31409328</b>	<b>Woodworking 1A: Machinery &amp; Methods</b>	<b>2 Credits/Units</b>



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<b>CHEM 10806127</b>	<b>Chemistry 1</b>	<b>4 Credits/Units</b>
The first of a two-semester sequence, Chemistry 1 gives the fundamental concepts of inorganic chemistry that includes the topics of measurement, chemical nomenclature, chemical reactions and stoichiometry, atomic structure, thermochemistry, chemical bonding and solution chemistry. It emphasizes the basic principles and quantitative measurements used on chemistry. It consists of three hours of lecture and one, two-hour laboratory period per week. This course is not intended for transfer.		
<b>CHEM 10806129</b>	<b>Chemistry 2</b>	<b>4 Credits/Units</b>
Chemistry 2 is the continuation of 10-806-127. Further study of basic chemical principles including chemical kinetics and equilibria, acid/base chemistry, and electrochemistry. It introduces properties, structures, and reactions of organic compounds. Elementary aspects of biochemistry are considered.		
<b>CHEM 10806134</b>	<b>General Chemistry</b>	<b>4 Credits/Units</b>
This course covers the fundamentals of chemistry. Topics include: the metric system; problem solving; periodic relationships; chemical reactions; chemical equilibrium; acids bases and salts; and gas laws.		
<b>CHEM 20806201</b>	<b>General, Organic &amp; Biological Chemistry</b>	<b>5 Credits/Units</b>
This course covers a broad range of topics suitable for many allied-health fields. Topics covered during the general chemistry portion of the course include measurement, problem solving, periodic table, chemical reactions, radioactivity, gases, solutions and acid-base behaviors. The organic chemistry portion introduces the structure and chemical behavior of major types of organic molecules. Also introduces the structure and function of major biological molecules such as carbohydrates, lipids and proteins. Although suitable for many programs, this course will generally not substitute for College Chemistry 1 if a program specifically requires that course or its equivalent.		
<b>CHEM 20806209</b>	<b>College Chemistry 1</b>	<b>5 Credits/Units</b>
The first semester of a two-semester sequence in college chemistry that includes the topics of measurement, chemical nomenclature, chemical reactions and stoichiometry, atomic structure, gas laws, thermochemistry, chemical bonding and solution chemistry. This course is for students who need one or two semesters of what is typically considered freshman college chemistry. Laboratory work assists in understanding chemical concepts and developing problem-solving skills. Students may complete the year of general college chemistry with 20-806-212.		
<b>CHEM 20806212</b>	<b>College Chemistry 2</b>	<b>5 Credits/Units</b>
College Chemistry 2 is a continuation of 20-806-209. This course covers the principles and applications of organic chemistry, reaction kinetics, equilibrium, thermodynamics, electrochemistry, coordination compounds, nuclear chemistry and environmental chemistry. Lab activities explore traditional analytical chemistry techniques, making extensive use of computer-assisted data analysis. This course involves rigorous quantitative problem solving, and a solid mathematics background is recommended.		
<b>CHEM 20806216</b>	<b>Chemistry for Biotechnology</b>	<b>3 Credits/Units</b>
This course is meant to serve as a review of foundational general chemistry to help comprehension of chemical topics encountered in biotechnology. As such it includes topics in organic chemistry and intermolecular interactions, kinetics, chemical equilibrium, including acid/base and buffer equilibrium, and basic thermodynamics.		
<b>CHEM 20806256</b>	<b>Organic Chemistry 1 Lecture</b>	<b>4 Credits/Units</b>
The first semester of a two-semester organic chemistry sequence. Includes the electronic structure and bonding of atoms and molecules; the nomenclature, mechanisms, reactions and properties of the following classes of compounds - alkanes, alkenes, alkynes, alkyl halides, alcohols, ethers, thiols, and sulfides; instrumental (IR, NMR) methods of analysis and their interpretation. Includes a three hour per week laboratory component as well as four hours per week lecture/discussion. CrLfCrLfThe first semester of a two semester organic chemistry sequence. Includes the electronic structure and bonding of atoms and molecules; stereochemistry; acids and bases; oxidation and reduction; the nomenclature, reactions, and properties of the following classes of compounds - alkanes, alkenes, alkynes, alkyl halides, alcohols, ethers, and epoxides. Includes the theory and interpretation of IR spectrophotometry and mass spectrometry.		
<b>CHEM 20806257</b>	<b>Organic Chemistry 2 Lecture</b>	<b>4 Credits/Units</b>
Continuation of Organic Chemistry 1. Includes the theory and interpretation of NMR and UV-VIS spectrophotometry; the nomenclature, mechanisms, reactions and properties of the following classes of compounds alkadienes, aromatic, aldehydes, ketones, enols/enolates, carboxylic acids, carboxylic acid derivatives, amines, aryl halides, and phenols. Includes multiple-strip syntheses involving all organic classes of molecules. This course completes the lecture portion of 1-year long sequence of basic organic chemistry curriculum.?		
<b>CHEM 20806266</b>	<b>Organic Chemistry 1 Lab</b>	<b>2 Credits/Units</b>

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This course covers traditional material taught in Organic Chemistry, as well as basic organic laboratory techniques, including correct documentation of work in a laboratory notebook, thin layer chromatography, distillation, recrystallization and separations. It will also include various characterization techniques, including IR, gas chromatography, melting point determination, and refractometry. Lastly, it will cover many of the organic transformations and mechanisms covered in most basic organic chemistry lecture courses, including: substitution and elimination reactions, esterification, and a multi-step extractions. This course will also include a presentation component.

**CHEM 20806267** **Organic Chemistry 2 Lab** **2 Credits/Units**  
This course covers traditional material taught in Organic Chemistry, as well as basic organic laboratory techniques, including correct documentation of work in a laboratory notebook, thin layer chromatography, distillation, recrystallization and separations. It will also include various characterization techniques, including NMR, IR, gas chromatography, melting point determination, and refractometry. Lastly, it will cover many of the organic transformations and mechanisms covered in most basic organic chemistry lecture courses, including polymerization, Diels-Alder, Aldol, Grignard syntheses, green chemistry, unknown characterization with multiple techniques and multi-step synthesis. This course will also include written and oral presentation components.

**CHINESE 20802230** **Intro to Mandarin Chinese 1** **3 Credits/Units**  
Introduction to Mandarin Chinese. This course will introduce students to the fundamental phonetic system and grammar of standard spoken Chinese and written language including 400 Chinese characters. This course will teach modern standardized simplified Chinese characters rather than the more complex traditional characters. The course will meet for four hours each week for three credits.

**CHINESE 20802231** **Intro to Mandarin Chinese 2** **3 Credits/Units**  
This course builds on the introduction to the fundamental phonetic system and grammar of standard spoken Chinese and written language and Chinese characters provided in Introduction to Mandarin Chinese I. This course will teach modern standardized simplified Chinese characters rather than the more complex traditional characters. The course will meet for four hours each week for three credits.

**CIVILET 10607120** **Methods In Civil Engineering** **2 Credits/Units**  
An introductory engineering course that familiarizes students with the civil engineering and construction processes from project concept to completion. Provides new students opportunity to develop and improve their problem-solving skills and prepare for subsequent technical courses.

**CIVILET 10607125** **Intro To CAD for Civil Engineering** **2 Credits/Units**  
This course introduces computer aided drafting (CAD) and will utilize software related to civil engineering design. This course will focus on: basic drawing techniques, creating and editing objects and text, proper utilization of layers, and creating blocks and templates.

**CIVILET 10607133** **Estimating** **3 Credits/Units**  
Stresses estimating for general civil engineering work. Covers the preparation of detailed estimates as prepared by contractors for bidding purposes, the general estimate as prepared by engineers, and approximate estimates. Areas covered: highways, water and sewer lines, bridges, culverts, streets and general construction grading. Prerequisite: 10-607-177, fourth-semester standing or consent of instructor.

**CIVILET 10607140** **Strength of Materials for Civil Engineering** **2 Credits/Units**  
An analysis of the principles of strength of materials as they apply to various fasteners, welded joints, beams and shafts through practical design and analysis problems. Topics covered include simple stresses, mechanical properties of materials, center of gravity, moment of inertia, shear force and bending diagrams and beam design. Related engineering analysis software is utilized throughout the course.

**CIVILET 10607147** **Civil Drawing 1** **3 Credits/Units**  
Emphasis on development of graphical communication. Begins with basic manual drafting skills including line work, lettering, drafting tools use and free hand sketching of construction details. Transition in the last half of the semester to a CAD-based environment stressing geometric construction principles and simple engineering drawings.

**CIVILET 10607148** **Civil Drawing 2** **2 Credits/Units**  
Applications-oriented class with CAD emphasis. More complex drawing projects including mapping, roadway design elements and structural detail applications. Drawing organization and standards, data conversion and sharing, third-party add-ins. Prerequisites: 10-607-147 and 10-607-156.

**CIVILET 10607149** **Aggregates And Concrete** **2 Credits/Units**  
Introduces the fundamental principles of aggregates, Portland cement concrete and bituminous concrete. Emphasizes standards-based sampling and testing in laboratory and field environments. Tests are performed according to standards set by the American Society for Testing and Materials (ASTM) and American Association of State Highway and Transportation Officials (AASHTO). Students communicate results in written reports. Prerequisites: 10-804-114, and 10-103-137.

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<b>CIVILET 10607155</b>	<b>Survey 1</b>	<b>3 Credits/Units</b>
Basic measurement concepts, procedures, errors and computations underlying the technical aspects of surveying. Students use modern instrumentation to perform elevation, distance, and angular measurements. Coordinate geometry is introduced as a computational tool. Computations are done both manually and on computer using commercial software.		
<b>CIVILET 10607156</b>	<b>Survey 2</b>	<b>3 Credits/Units</b>
Principles, computations and field methods, from design to stakeout, involved in three-dimensional curvilinear survey applications. AASHTO and WisDOT vertical and horizontal alignment standards; geometric and volumetric calculations. Field work reflecting different construction surveys are performed utilizing modern instrumentation. Prerequisite: 10-607-155. Corequisites: 10-607-147 and 10-804-107.		
<b>CIVILET 10607158</b>	<b>Survey 3</b>	<b>3 Credits/Units</b>
Advanced concepts and procedures building on knowledge and skills attained in previous surveying classes. Concepts include geodetic applications, spatial reference systems, equipment adjustment, digital data collection and photogrammetry. Fieldwork includes total station calibration, control leveling, control network establishment and digital topographic data collection. Prerequisites: 10-607-156 and 10-607-147.		
<b>CIVILET 10607160</b>	<b>Soils</b>	<b>2 Credits/Units</b>
Introduces the basic principles of soil mechanics and their application in engineering practice. Topics include soil composition and texture, subsurface investigation, classification, moisture-density relationships, permeability and seepage, consolidation, settlement, shear strength, lateral earth pressures, fundamentals of retaining structures, shallow and deep foundations, slope stability and erosion loss calculations. Prerequisites: 10-806-154, 10-607-149. Corequisite: 10-801-197.		
<b>CIVILET 10607161</b>	<b>Project</b>	<b>3 Credits/Units</b>
Project-driven course through which civil engineering technicians gain firsthand experience with design by developing plans, specifications and reports for a "real-world" project while working in a team environment. Students present written and oral reports to reinforce technical communication skills. Prerequisites: 10-607-148 and 10-607-158. Corequisites: 10-607-133 and 10-607-182.		
<b>CIVILET 10607171</b>	<b>Construction Materials</b>	<b>2 Credits/Units</b>
Introduction to the design, specification and detailing of steel and reinforced concrete in typical civil engineering projects. Emphasis on infrastructural applications. Prerequisite: 10-607-160		
<b>CIVILET 10607172</b>	<b>Stormwater Management</b>	<b>2 Credits/Units</b>
Introduces principles involved in the design of storm sewer systems, culverts, and detention/retention basins. Covers the basic concepts of hydraulics and hydrology. Pre-requisite: Third semester standing.		
<b>CIVILET 10607177</b>	<b>Legal Elements Engineering</b>	<b>2 Credits/Units</b>
Emphasizes contract relationships. The first half of the semester is spent studying the elements of a valid contract along with a study of the court system. The remainder of the semester concentrates on specifications, contracting procedure and the relationship between the three main parties involved in a construction contract: owner, engineer and contractor. Other topics include professional liability, professional ethics, product liability, discharge and remedies for non-completion. Prerequisite: third-semester standing or consent of instructor		
<b>CIVILET 10607178</b>	<b>Statics and Mechanics for Civil Engineering</b>	<b>2 Credits/Units</b>
Introduces students to the basics of statics. Learners study and analyze forces and loading conditions applied to structures and mechanical devices. Areas of study include resultant and equilibrant of forces, moments, nonconcurrent-coplanar forces (trusses), concurrent-noncoplanar forces and static friction. Related engineering analysis software will be utilized throughout the course.		
<b>CIVILET 10607179</b>	<b>Intro to Geographical Information Systems (GIS)</b>	<b>2 Credits/Units</b>
Basic terminology and components of geographic information systems. Capturing and organizing spatial data; integrating graphic and tabular information. Using spatial relationships to answer geographic queries. Civil engineering applications of GIS technology.		
<b>CIVILET 10607182</b>	<b>Water Supply and Sewerage</b>	<b>2 Credits/Units</b>
This course will provide the student with an understanding of the principles involved in the design of municipal water supply, municipal sanitary sewerage and private on-site waste treatment (POWTS) systems.		
<b>CIVILET 10607193</b>	<b>Career Development</b>	<b>1 Credits/Units</b>
Prepares students for work in a professional engineering environment by providing them with a knowledge and understanding of themselves and others. This course also guides students through the etiquette required for success in the job market and assists them in assembling the materials and information necessary for effective job applications and interviews.		
<b>COLLSUCC 20890200</b>	<b>College Success</b>	<b>3 Credits/Units</b>

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This course provides learners with strategies to develop skills for success in college. Learners will work on academic skills such as test taking, note taking, reading etc. And, learners will work on other success strategies such as motivation, goal setting, interdependence, and self-awareness. Learners will apply self-management techniques, explore resource management strategies, practice study skills, and learn about ways to improve personal effectiveness.

<b>COLLSUCC 20890202</b>	<b>Career Development</b>	<b>1 Credits/Units</b>
This course provides learners with strategies to develop skills necessary to make satisfying career development decisions. Learners will have an opportunity to participate in self-awareness activities and standardized assessments that focus on the areas of personality, interests, skills, and values. In addition, this course will explore researching career paths, market research, planning, goal setting and decision making. Students will leave with a better understanding of themselves, career paths, and our current job market.		
<b>COMM 10801196</b>	<b>Oral/Interpersonal Communication</b>	<b>3 Credits/Units</b>
Focuses upon developing speaking, verbal, and nonverbal communication and listening skills through individual presentations, group activities, and other projects.		
<b>COMM 20810205</b>	<b>Small Group &amp; Interpersonal Communications</b>	<b>3 Credits/Units</b>
This course explores verbal and nonverbal concepts, theories, and practical skills necessary to become competent in interpersonal and small group settings. Students explore dependent, independent and interdependent relationships with others in personal and work-related settings.		
<b>COMM 20810206</b>	<b>Difficult Conversations</b>	<b>3 Credits/Units</b>
In this course, you will develop the skills necessary to navigate conversations that are challenging, complicated, or downright unpleasant. We will discuss theories and practices of interpersonal communication, focusing on those that help us understand and manage these conversations. We will do this through readings and discussions as well as analysis and research.		
<b>COMM 31801356</b>	<b>Communications 1</b>	<b>1 Credits/Units</b>
Communications 1 improves critical thinking, speaking, listening and writing skills. Where possible, the course is tailored to employment situations. It differs from 31-801-351, Communications 1 (2 credits), primarily in depth.		
<b>COMPSOFT 10103121</b>	<b>Windows 10</b>	<b>1 Credits/Units</b>
Introduces the Windows 10 operating system - the basis for working in many businesses or organizations. Learn and practice file management skills, work with common elements (start menu, taskbar, shortcuts, help and apps), use accessory programs, customize windows, and search for information. This course provides the foundational knowledge for anyone seeking to advance their skills in Microsoft 365/Office 2019. Students are required to have access to a computer that uses the Windows 10 operating system. Before enrolling, students must be competent in using the mouse, finding information on the internet, sending email messages with attachments, and adhering to file management practices. If lacking, students should enroll in the Basic Skills Education Course, "Computer Basics" prior to Windows 10.		
<b>COMPSOFT 10103133</b>	<b>Excel Beginning</b>	<b>1 Credits/Units</b>
Within the Microsoft Office Suite, Excel Beginning is an introduction to Microsoft Excel spreadsheet software used to effectively manage data to make better business decisions. Create and format worksheets and workbooks; analyze data using formulas and functions; create charts to display data visually. Work with functions such as SUM, IF, AND, OR, AVERAGE, MIN, MAX, COUNT, and Date functions. This course will use Office 365/Excel 2019. Prerequisite: Competency in Windows including file management skills.		
<b>COMPSOFT 10103136</b>	<b>Word Intermediate</b>	<b>1 Credits/Units</b>
This intermediate course is a continuation of the Microsoft Word Beginning class. Use Microsoft Word within the Microsoft Office suite software to transform documents into professional business communication resources. Learn more advanced skills including mail merge and integration with other Microsoft Office programs, such as embedded and linked files, objects, charts, and links. Create illustrating documents using columns, SmartArt, WordArt, text boxes, charts, and graphics. Customize styles, themes, and Building Blocks. Utilize Word's collaboration features including track changes, manage reviewers, and compare documents. This course will use Microsoft Office 365/Word 2019. Required: Word Beginning, 10103137 or consent of instructor.		
<b>COMPSOFT 10103137</b>	<b>Word Beginning</b>	<b>1 Credits/Units</b>
Within the Microsoft Office Suite, Microsoft Word helps you create effective business documents. Format documents with fonts, text appearance, line spacing, styles, themes, borders and shading, bulleted and numbered lists, page breaks, and page numbers. Effectively align text using indents, tab stops, paragraph alignment, sections, and columns. Insert comments, headers and footers, graphics, WordArt, SmartArt, shapes, and text boxes. Create and format tables, modify rows and columns, perform calculations, sort table data, and customize tables. Work with footnotes, endnotes, citations, and bibliographies. This course will use Microsoft Office 365/Word 2019. Required: Competency in Windows, solid file management skills, and suggested keyboarding speed of 25 words per minute.		
<b>COMPSOFT 10103139</b>	<b>Excel Intermediate</b>	<b>1 Credits/Units</b>



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Continuation of the Microsoft Excel Beginning course. Using the Microsoft Office Suite, focus on the higher-level concepts of Microsoft Excel spreadsheet software. Use Excel tables to analyze and manipulate data; create data validations. Work with multiple worksheets; protect worksheets and workbooks; create and save custom views. Work with images and integrating Excel with other program data. Summarize and analyze data using subtotals, PivotTables, PivotCharts and PivotReports. Work with functions such as VLOOKUP, DSUM, GETPIVOTDATA. This course will use Microsoft Office 365/Excel 2019. Pre-requisite: Excel Beginning or consent of instructor, and competency in Windows including file management skills.

**COMPSOFT 10103143                      PowerPoint                      1 Credits/Units**

Within the Microsoft Office Suite, Microsoft PowerPoint presentation software helps you to create effective and engaging presentations. Create and edit presentations, use pictures and graphics to illustrate key points, prepare presentations for effective delivery, and use images, illustrations, themes, and templates. Work with text, pictures, graphics, icons, SmartArt, slide layouts, design themes, Design Ideas pane, tables, and charts. Incorporate video, animation, and transitions. Prepare to give a polished presentation using speaker's notes, rehearsal techniques, timings, and narration. Utilize the Slide Master to create custom templates. This course will use Microsoft Office 365/PowerPoint 2019.

**COMPSOFT 10103145                      Access                      1 Credits/Units**

Within the Microsoft Office Suite, Microsoft Access database software can help manage your information, data, and records. In this beginning level course, you will create, edit, and manipulate databases to harness the power of important business information; add tables to store and organize data; create relationships to take advantage of a relational database; perform queries to extract meaningful information; add calculations to tables and queries to determine values; create and use forms to assist with data entry and online data management; develop reports for data analysis and reporting out to stakeholders; use settings within Access to ensure efficient and accurate data entry. Prerequisite: Competency in Windows including solid file management skills. This course will use Microsoft Office 365/Access 2019.

**COMPSOFT 10103165                      Outlook                      1 Credits/Units**

Within the Microsoft Office Suite, Microsoft Outlook is a messaging and personal information management program that allows you to communicate by email; schedule appointments, meetings and events; manage the Inbox, contact lists, tasks, notes, and to-do lists; categorize and flag messages; track and archive messages. You can also configure and customize Outlook; manage Outlook components; integrate Outlook options; create quick steps and rules; configure autoarchive settings, and work with news feeds. This course will use Microsoft Office 365/Outlook 2019.

**COMPSOFT 10103169                      Collaboration Tools                      1 Credits/Units**

Learn, compare, and analyze the successful use of collaboration and social media tools used in organizations today. Organize notes, images, files, and correspondence with Microsoft OneNote; build a customized online calendar to track meetings and tasks; explore and participate in social media applications from a business perspective; examine video conferencing systems and take part in a live web meeting; utilize SharePoint to store and manage files. This course uses Microsoft Office 365/OneNote 2019.

**COMPSOFT 10103186                      MS (Microsoft) Project                      2 Credits/Units**

Within the Microsoft Office Suite, Microsoft Project is a project management software used to plan a project, create a project schedule and Gantt Chart, communicate project information, assign resources and costs, track project progress through completion, and share project information with other programs. This course will use Microsoft Office 365/Project 2019.

Prerequisite: Competency in Windows including file management skills.

**CONST 31410301                      Introduction to Construction                      5 Credits/Units**

This course provides instruction in the fundamentals of floor, wall, ceiling and roof framing. A variety of building methods are discussed in the context of current understanding of how buildings work and why they fail.

**CONST 31410302                      Plans, Site and Formwork                      2 Credits/Units**

This course provides instruction in interpretation of plans, specifications and building codes, site preparation, the layout of footings and foundations and setting concrete forms.

**CONST 31410308                      Construction Industry Codes and Regulations                      2 Credits/Units**

Units of instruction include zoning requirements, residential and commercial building codes, sanitary regulations, permit applications, building permits and inspection procedures. Contract documents and office practice are also discussed.

**CONST 31410309                      Plan Reading and Drawing                      1 Credits/Units**

This course provides instruction in the interpretation of construction drawings and documents. Specific areas of emphasis include architectural scale, symbols, abbreviations and specifications, and how drawings are translated to create the built world. Areas of drawing instruction include sketching techniques, orthographic projection, and isometric drawings.

**CONST 31410310                      Materials and Estimating 2                      1 Credits/Units**

This course builds on material and estimating skills learned in Materials and Estimating 1. Students will create estimates using Excel spreadsheets. In the capstone project, students will create a bid for building one of the student project homes. The bid will then be used as the basis of a sales presentation delivered to professionals from the home building industry.

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<b>CONST 31410311</b>	<b>Commercial Construction</b>	<b>1 Credits/Units</b>
This course focuses on construction techniques and materials that are used primarily in commercial construction settings. Students will frame with steel, install metal framed doors, erect concrete forms and install suspended ceilings. Entry into apprenticeship and other commercial construction career pathways will be explored.		
<b>CONST 31410324</b>	<b>Remodeling Techniques</b>	<b>1 Credits/Units</b>
Explores the differences between new building construction and remodeling existing buildings. Topics covered include site protection, safe demolition techniques, lead and asbestos hazards, removing existing walls, replacing windows and doors, and tying into the existing structure.		
<b>CONST 31410328</b>	<b>Construction Techniques 1</b>	<b>5 Credits/Units</b>
This course continues instruction on roof framing and introduces installation methods for roof shingles, windows and doors, soffits and fascia, exterior trim and siding. Basic stair construction is also included. Building science topics of insulation, drainage planes and greener building techniques are also discussed.		
<b>CONST 31410329</b>	<b>Construction Techniques 2</b>	<b>5 Credits/Units</b>
This course emphasizes interior finish including, but not necessarily limited to, installing wall board, hanging interior doors, installing interior trim, installing kitchen and bathroom cabinets, and completing a punch list.		
<b>CONST 31410335</b>	<b>Intermediate Carpentry Lab</b>	<b>2 Credits/Units</b>
Students will practice carpentry skills learned in Introduction to Construction and Construction Techniques 1. They will continue to work, under faculty supervision, on the sheds and the home that they began in the fall semester. They may also complete a small remodeling project. Carpentry tasks will include framing, roofing, window and door installation and exterior finishing.		
<b>CONST 31410337</b>	<b>Workplace Safety</b>	<b>1 Credits/Units</b>
This course will cover several key areas of OSHA workplace safety, including: erection of ladders and scaffolds, HASCOM (Hazardous Materials Communication), selection and use of PPE (Personal Protective Equipment), proper machined guarding, and prevention of slips, trips and falls.		
<b>CONST 31410338</b>	<b>Nailin' It--Success in Construction &amp; Remodeling</b>	<b>1 Credits/Units</b>
This course introduces students to the skills needed to be a successful Construction & Remodeling student. It also gives students an introduction to construction careers, basic construction safety and a campus and program orientation. Students who complete this course with a C or better will have completed their College Success requirement towards the Construction program.		
<b>CONST 31410345</b>	<b>Materials and Estimating 1</b>	<b>1 Credits/Units</b>
This course introduces students to using building plans to create materials and labor estimates. Material selection and methods for calculating labor rates will also be covered.		
<b>CONST 31410363</b>	<b>Building Science and Sustainability</b>	<b>1 Credits/Units</b>
In order to design and build quality, energy efficient and resource efficient homes, it is important to understand the interaction of building systems. In this course, students explore the structural, HVAC, electrical and plumbing systems in a home and how their performance can be measured and optimized to create sustainable homes.		
<b>CONST 31410379</b>	<b>Construction Math</b>	<b>1 Credits/Units</b>
Construction Math is a review of basic mathematics that consists of an introduction to using a scientific calculator, order of operations, fractions, decimals, use of percentage, units of measurement including the metric system, the reading of analog instruments for length measurement, and practical plane geometry.		
<b>CONST 31410385</b>	<b>Introduction to 3D Computer Assisted Drafting</b>	<b>1 Credits/Units</b>
In this course, students create three dimensional building models using Sketch Up and a building information modeling software such as Chief Architect. Those models will then be used to create construction documents.		
<b>CONST 31410399</b>	<b>Fundamentals Of Construction</b>	<b>3 Credits/Units</b>
This course provides an introduction to the identification, safe use and care of hand and portable power tools. Lab work includes the construction of sawhorses using techniques learned in class.		
<b>CONST 31410410</b>	<b>Fundamentals of Construction 1</b>	<b>2 Credits/Units</b>
This course provides an introduction to the identification, safe use, and care of hand and portable power tools. Lab work includes the construction of sawhorses using techniques learned in class. Students must also complete Fundamentals of Construction 2 (one credit) to fulfill the Fundamentals of Construction (total 3 credits) requirement for the Construction & Remodeling Program.		
<b>CONST 31410411</b>	<b>Fundamentals of Construction 2</b>	<b>1 Credits/Units</b>

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This course provides an introduction to the identification, safe use and care of hand and portable power tools, especially those used for finish carpentry. Lab work includes the construction of cornhole games using techniques learned in class. This course fulfills the third and final credit of the Fundamentals of Construction program requirement for students in the Construction & Remodeling program.

<b>COSMET 10502330</b>	<b>Making the Cut</b>	<b>1 Credits/Units</b>
Making the Cut is an orientation course designed to maximize the students understanding of the Barber/Cosmetology Academy which is offered to waitlisted individuals prior to enrollment in the program. Students are introduced to the industry, receive an orientation to the program competencies, assessed on their preparedness, skill and abilities to ensure an educational match and increase the chance of successful program completion.		
<b>COSMET 31502331</b>	<b>Basic Hair Color</b>	<b>4 Credits/Units</b>
Beginning hair color, verbiage and color wheel.		
<b>COSMET 31502332</b>	<b>Haircutting Concepts</b>	<b>4 Credits/Units</b>
Basic haircutting, solid form, layered and clipper cutting.		
<b>COSMET 31502333</b>	<b>Nail Technology</b>	<b>2 Credits/Units</b>
Nail theory, manicures and pedicures.		
<b>COSMET 31502334</b>	<b>Cosmetology Science</b>	<b>1 Credits/Units</b>
Salon Ecology, Chemistry and Trichology.		
<b>COSMET 31502335</b>	<b>Aesthetic &amp; Makeup Artistry</b>	<b>2 Credits/Units</b>
Skin theory, facials, hair removal and makeup.		
<b>COSMET 31502336</b>	<b>Long Hair Design</b>	<b>1 Credits/Units</b>
Upstyling and braiding.		
<b>COSMET 31502337</b>	<b>Chemical Texturizing</b>	<b>2 Credits/Units</b>
Permanent waving, hair smoothing and chemical relaxing.		
<b>COSMET 31502344</b>	<b>Industry Trends</b>	<b>1 Credits/Units</b>
Hair color correction, advanced hair coloring, haircutting trends, wigs and hair extensions.		
<b>COSMET 31502351</b>	<b>Introduction to Salon Services &amp; Infection Control</b>	<b>2 Credits/Units</b>
Introduces students to a closed lab service setting on Manikins, peers, and models. Students will apply introductory knowledge of cosmetology science, infection control, safety and sanitation procedures, hair analysis, shampooing, haircutting techniques, scalp and hair conditioning treatments, nail services and retail methodology and practices.		
<b>COSMET 31502352</b>	<b>Basic Hair and Nail Services 1</b>	<b>2 Credits/Units</b>
Emphasizes salon services demonstrating basic knowledge of theory subjects on clientele with instructor supervision. Students will apply knowledge of infection control, safety and sanitation procedures while performing basic haircutting, basic hair color, basic hair design, nail technology and retail methodology and practices.		
<b>COSMET 31502353</b>	<b>Basic Hair and Nail Services 2</b>	<b>3 Credits/Units</b>
Students will continue to apply knowledge of infection control, safety and sanitation procedures while further demonstrating their skills in basic haircutting, basic hair color, basic hair design, nail technology and retail methodology and practices on clientele with instructor supervision.		
<b>COSMET 31502354</b>	<b>Intermediate Hair, Nail, and Facial Services 1</b>	<b>4 Credits/Units</b>
Students will build on their foundational hair skills by providing color highlighting services to clientele with instructor supervision. Students will also demonstrate their knowledge in skin theory by practicing basic aesthetics including facials, facial hair removal, and makeup artistry.		
<b>COSMET 31502355</b>	<b>Intermediate Hair, Nail, and Facial Services 2</b>	<b>4 Credits/Units</b>
Students will continue their intermediate hair skills including cut, color, design and highlighting to clientele with instructor supervision. Students will also continue to demonstrate their intermediate skills in skin theory by practicing intermediate aesthetics in facials, facial hair removal, and makeup artistry.		
<b>COSMET 31502356</b>	<b>Advanced Hair, Nail and Aesthetic Services</b>	<b>4 Credits/Units</b>
Student demonstrates advanced cosmetology training with hair, skin and nail techniques. Students will also demonstrate infection control, safety and sanitation, practices in preparation for the state board examination.		
<b>COSMET 31502357</b>	<b>Mastery Hair, Nail, and Aesthetic Services</b>	<b>4 Credits/Units</b>

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Student demonstrates mastery of training with hair, skin and nail techniques while practicing infection control while preparing for the state board examination.

<b>COSMET 31502393</b>	<b>Salon Marketing</b>	<b>1 Credits/Units</b>
Salon marketing involving social media, direct marketing and promotions.		
<b>COSMET 31502395</b>	<b>State Board Review/WI Laws &amp; Rules</b>	<b>1 Credits/Units</b>
Review state board subjects in preparation for practical and written exam.		
<b>COSMET 31502396</b>	<b>Advanced Haircutting</b>	<b>1 Credits/Units</b>
Razor haircuts, texturizing and clipper cutting.		
<b>COSMET 31502397</b>	<b>Basic Hair Design</b>	<b>2 Credits/Units</b>
Wet and thermal hair styling.		
<b>COSMET 31502398</b>	<b>Client Relations</b>	<b>1 Credits/Units</b>
Customer service, emotional intelligence and professional development.		
<b>COSMET 31502399</b>	<b>Highlighting Techniques</b>	<b>2 Credits/Units</b>
Focuses on chemicals used in the effects of highlighting hair. Practices the steps involved in a chemical service involving safety and infection control. Demonstrates skills of highlighting, balayage, hand painting and foiling.		
<b>COSMET 50502521</b>	<b>Trichology, Bacteriology, Sterilization and Sanitation</b>	<b>2 Credits/Units</b>
Examine topics related to the structure and disorders of the hair and scalp. Become familiar with the proper selection of shampoos, conditioners and treatments for providing hair care and scalp services. Study design decisions and become familiar with the techniques associated with basic hair cutting. Identify dexterity, procedures and techniques in hair cutting and hair styling needed to provide client satisfaction. Understand bacteriology and sanitation as it relates to providing hair care services. Introduction to cosmetology laws and rules.?		
<b>COSMET 50502522</b>	<b>Hair Cutting, Design and Chemical Services</b>	<b>2 Credits/Units</b>
Gain an understanding of hair cutting and receive and introduction to chemical services. Study the physical and chemical changes that must take place in all chemical services performed. Practice the application of chemicals and the placement of permanent wave rods to achieve the desired chemical services. Become familiar with use and care of tools used in a salon setting?.		
<b>COSMET 50502523</b>	<b>Advanced Chemical Services and Salon Business</b>	<b>2 Credits/Units</b>
Continued study of tools and equipment used in a salon setting. Learn about advanced chemical services including coloring and chemical texturizing. You will also study cosmetology salon industry business operations.		
<b>COSMET 50502524</b>	<b>Facial Anatomy, Skin &amp; Nail Care, and State Regulations</b>	<b>2 Credits/Units</b>
Learn to recognize various nail irregularities, disorders and diseases in order to determine when to continue service or refer the client to a physician. Practice different procedures that are used to provide nail care services. Study the anatomy of the face in order to be able to accurately perform related services. Become familiar with skin care, hair removal and make-up. Review barber/cosmetology laws and rules and its application to providing services to the client's in a safe and sanitary manner. Review for State Exam and the final exam for your apprenticeship training.		
<b>COURT 10170111</b>	<b>Court Reporting 1</b>	<b>4 Credits/Units</b>
Prepares the learners to use machine shorthand (StenEd Computer Compatible Theory) to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation, and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes.		
<b>COURT 10170112</b>	<b>Court Reporting 2</b>	<b>4 Credits/Units</b>
Continuation of machine shorthand covering theory, keyboard, and phonetics necessary to write and read conflict-free computer shorthand. Introduces speed building while focusing on accuracy in writing, transcribing, and readback of shorthand notes. Includes vocabulary development.		
<b>COURT 10170113</b>	<b>Court Reporting 3</b>	<b>4 Credits/Units</b>
Continuation of machine shorthand covering theory, keyboard, and phonetics necessary to write and read conflict-free computer shorthand. Introduces speed building while focusing on accuracy in writing, transcribing, and readback of shorthand notes. Includes vocabulary development.		
<b>COURT 10170114</b>	<b>Court Reporting 4</b>	<b>4 Credits/Units</b>
Continuation of machine shorthand covering theory, keyboard, and phonetics necessary to write and read conflict-free computer shorthand. Introduces speed building while focusing on accuracy in writing, transcribing, and readback of shorthand notes. Includes vocabulary development.		

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<b>COURT 10170115</b>	<b>Court Reporting 5</b>	<b>4 Credits/Units</b>
Continues speedbuilding and vocabulary expansion for writing and transcribing material from legal proceedings (testimony, jury charges, voir dire, expert witnesses, depositions, and opening/closing statements) and technical areas (testimony, literary, congressional, scientific, and medical). Stresses fluent and accurate readback.		
<b>COURT 10170116</b>	<b>Court Reporting 6</b>	<b>4 Credits/Units</b>
Continues speedbuilding and vocabulary expansion for writing and transcribing material from legal proceedings (testimony, jury charges, voir dire, expert witnesses, depositions, and opening/closing statements) and technical areas (testimony, literary, congressional, scientific, and medical). Stresses fluent and accurate readback.		
<b>COURT 10170121</b>	<b>CAT Class 1</b>	<b>1 Credits/Units</b>
Technology course for Court Reporting program that focuses on computer basics and transcript production, dictionary management, realtime translation, and reporter technology utilizing Case CATalyst software from Stenograph, LLC.		
<b>COURT 10170122</b>	<b>CAT Class 2</b>	<b>1 Credits/Units</b>
Technology course for Court Reporting program that focuses on computer basics and transcript production, dictionary management, realtime translation, and reporter technology utilizing Case CATalyst software from Stenograph, LLC.		
<b>COURT 10170124</b>	<b>CAT Class 4</b>	<b>1 Credits/Units</b>
Technology course for Court Reporting program that focuses on computer basics and transcript production, dictionary management, realtime translation, and reporter technology utilizing Case CATalyst software from Stenograph, LLC.		
<b>COURT 10170125</b>	<b>CAT Class 5</b>	<b>1 Credits/Units</b>
Technology course for Court Reporting program that focuses on computer basics and transcript production, dictionary management, realtime translation, and reporter technology utilizing Case CATalyst software from Stenograph, LLC.		
<b>COURT 10170131</b>	<b>English for Realtime Reporters 1</b>	<b>1 Credits/Units</b>
Focuses on the rules of English grammar, spelling, punctuation, and capitalization, including vocabulary (word knowledge), through instruction and activities designed for students to develop spelling and vocabulary skills and demonstrate ability to apply the rules of grammar, spelling, punctuation, and capitalization to sentences, paragraphs, and transcripts through systematic testing and/or projects.		
<b>COURT 10170132</b>	<b>English for Realtime Reporters 2</b>	<b>1 Credits/Units</b>
Focuses on the rules of English grammar, spelling, punctuation, and capitalization, including vocabulary (word knowledge), through instruction and activities designed for students to develop spelling and vocabulary skills and demonstrate ability to apply the rules of grammar, spelling, punctuation, and capitalization to sentences, paragraphs, and transcripts through systematic testing and/or projects.		
<b>COURT 10170134</b>	<b>English for Realtime Reporters 4</b>	<b>1 Credits/Units</b>
Focuses on the rules of English grammar, spelling, punctuation, and capitalization, including vocabulary (word knowledge), through instruction and activities designed for students to develop spelling and vocabulary skills and demonstrate ability to apply the rules of grammar, spelling, punctuation, and capitalization to sentences, paragraphs, and transcripts through systematic testing and/or projects.		
<b>COURT 10170135</b>	<b>English for Realtime Reporters 5</b>	<b>1 Credits/Units</b>
Focuses on the rules of English grammar, spelling, punctuation, and capitalization, including vocabulary (word knowledge), through instruction and activities designed for students to develop spelling and vocabulary skills and demonstrate ability to apply the rules of grammar, spelling, punctuation, and capitalization to sentences, paragraphs, and transcripts through systematic testing and/or projects.		
<b>COURT 10170170</b>	<b>Court Reporting Procedures</b>	<b>3 Credits/Units</b>
Covers professional reporting procedures, including transcript production; daily copy reporting; using general and legal reference materials; legal citations; professional standards and ethics; technology, such as videotaped depositions and computer-assisted transcription; reporting depositions, commission hearings and business meetings; operating a freelance reporting business; and resume preparation. Requires a minimum testimony writing speed of 180wppm.		
<b>COURT 10170171</b>	<b>Legal Terminology</b>	<b>2 Credits/Units</b>
Focuses on legal terminologies customarily encountered in the judicial system in the following areas: civil law; criminal law; and discovery, trial, and appellate processes. Methods of researching legal citations are also emphasized.		
<b>COURT 10170172</b>	<b>Court Reporting Internship</b>	<b>3 Credits/Units</b>

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The objective of the class is to gain experience and knowledge through observation of the working reporter in the judicial and educational environment. Students will also participate by writing in actual situations relating to the freelance, courtroom, and realtime environments. Mock RPR and CRR tests are administered and mock interviews conducted. Requires a minimum testimony writing speed of 180wpm.

**CRIMJUST 10504105 Professional Development for Criminal Justice 3 Credits/Units**  
This course is designed for second year criminal justice students who are preparing to enter into the job search process. Prepares the student for the hiring process for a Criminal Justice career including applications, resumes, interviews, and hiring process standards. This course is also based on the Office of Community Oriented Policing, "Innovations in Police Recruitment and Hiring" manual?

**CRIMJUST 10504143 Criminology for Law Enforcement 3 Credits/Units**  
Exposes criminal justice students to these questions: what is crime and why is it a problem? Focusing on those questions, the course will look at what is known about crime and how it is known. Also touches on crimes, criminals and theories, while focusing on the police in the criminal justice system. Prerequisite: completion of first-year courses

**CRIMJUST 10504170 Introduction to Corrections - Criminal Justice 3 Credits/Units**  
Examines the concept of punishment and its form, functions, and enforcement throughout history, with an emphasis on the operation, structure, clientele, and issues confronting the institutions, agencies, and programs encompassing the corrections system including jails, prisons, and probation and parole.

**CRIMJUST 10504171 Private Sector Security 3 Credits/Units**  
This course is a comprehensive examination of the relationship of the criminal justice system to business and industrial security. It also provides an overview of the administrative, personnel, and physical aspects of the private security field.

**CRIMJUST 10504180 Internship 3 Credits/Units**  
Integrates learned classroom theory and skills with real-life experience under the direct supervision of practitioners. Students are placed within an agency to interact, observe and participate to a limited degree with practitioners during the performance of their regular duties. Students receive intense one-on-one instruction in developing useful skills based on field experience. Prerequisites: Instructor approval, completion of two semesters (30 credits and all 1st year core program courses) in the Criminal Justice Program and a 2.5 GPA. Travel to internship site is the responsibility of the student. Students may need to pass a criminal background examination by the supervising agency.

**CRIMJUST 10504900 Introduction to Criminal Justice 3 Credits/Units**  
This course explores the Criminal Justice system while focusing specifically on the three primary components of that system: Law Enforcement, the Criminal Court system and the Corrections System.

In the Law Enforcement Unit, students will study the police and their role within the system and society-at-large while focusing between the roles and functions of federal, state and local law enforcement agencies. Learners will explore contemporary issues, police procedures, and ethical dilemmas to acquire critical insight.

In the Court System Unit, learners will distinguish between the roles and functions of court personnel and various courts with jurisdiction in Wisconsin and federal courts with jurisdiction throughout the United States.

In the Corrections Unit, students will examine the various ways that punishment and rehabilitation are practiced within the corrections system. Learners will study and discuss the five primary goals of sentencing and evaluate their application and success.

**CRIMJUST 10504902 Criminal Law 3 Credits/Units**  
This course covers the evolution of substantive and procedural criminal law and its impact on society. Students will analyze the basic elements of criminal offenses and the fundamental concepts of due process and fairness underlying American criminal procedure both before and after arrest.

**CRIMJUST 10504905 Report Writing 3 Credits/Units**  
In this course, the learner will explain the context of report writing, take effective field notes, organize information in reports, write narratives, describe what information should be included in certain types of reports, prepare for court, describe how to be an effective witness, and testify as a witness in court. This is part of the criminal justice courses.

**CRIMJUST 10504906 Criminal Investigation Theory 3 Credits/Units**

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In this course, the learner will describe the role evidence plays in criminal investigations and prosecutions; apply the steps for processing crime scenes; apply appropriate strategies to locate, handle, and package evidentiary items; document the crime scene; recognize the unique investigative issues for crimes against life; apply appropriate strategies to secure the scene, collect and preserve evidence, and investigate a death; recognize the dynamics of victimization; apply knowledge of the definitions and responsibilities for law enforcement; apply appropriate interview techniques with adult or child victims; analyze the role of law enforcement in responding to domestic abuse; intervene and apply appropriate investigative strategies; respond to an officer-involved domestic violence incident; analyze the role of law enforcement in responding to sexual abuse; demonstrate investigative techniques in a simulated sexual assault case; and identify other resources that can assist in sexual assault cases. This is part of the criminal justice courses. Prerequisites: 10-504-902.

**CRIMJUST 10504909**                                      **Foundations of Policing**                                      **3 Credits/Units**  
Examines the roles and functions of police; includes police history and organization, challenges and expectations within the field; addresses police operations and critical issues such as technology, drug investigations and homeland security.

**CRIMJUST 10504910**                                      **Diversity and Criminal Justice**                                      **3 Credits/Units**  
An examination of race in the context of the criminal justice system. Emphasis on the treatment of racial minorities as victims and offenders by law enforcement, courts, and corrections. The main purpose of this course is to assist students build their analytic and critical skills necessary to gain deeper, understanding of the important issues of race and the criminal justice system.

**CRIMJUST 10504911**                                      **Interviewing**                                      **3 Credits/Units**  
Examines the principles of effective interviewing as applied to investigative reporting, research, persuasion, counseling, employment, and the investigation of crime. Addresses the theory and practice of interviewing and interrogation as applied to gaining information from complainants, witnesses, victims, informants, and suspects.

**CRIMJUST 10504912**                                      **Ethics in Criminal Justice**                                      **3 Credits/Units**  
Ethical issues relevant to law enforcement, the courts, and corrections are examined. The basis for ethical dilemmas and decision making at all stages of the criminal justice system are presented. Actual ethical dilemmas are presented and analyzed for hands-on discussion and resolution. Topics include developing moral and ethical behavior, analyzing policy and management issues, professionalism, and ethics for practitioners in criminal justice.

**CRIMJUST 10504913**                                      **Restorative Justice and Victimology in Criminal Justice**                                      **3 Credits/Units**  
This course focuses on the perspectives of restorative justice and the study of crime victims to include the nature, extent, and causes of crime and the implementation of restorative principles and practices. Emphasis will be placed on the underpinnings of victimology (to include patterns and trends), theoretical contributions, and the relationship among victimology and restorative justice in the criminal justice system. Philosophies and principles of restorative justice will include an analysis of those involved in restorative initiatives. Several restorative justice initiatives will be analyzed, practiced, and facilitated with a criminal justice organization.

**CRIMJUST 10504914**                                      **Juvenile Justice**                                      **3 Credits/Units**  
Students in the course will examine the history of the juvenile justice system and the nature and extent of juvenile delinquency in the U.S. Students will also compare biological, psychological and sociological theories and analyze the impact of social issues related to delinquency. In addition to outlining case law regarding the legal rights of juveniles, students will distinguish between the roles of the Police, Juvenile Courts, and Juvenile Aftercare within the juvenile justice system and how they interact with and influence each other.

**CRIMJUST 10504917**                                      **Police Community Relations**                                      **3 Credits/Units**  
This course examines the history of community policing, problem-oriented policing, community responsibilities, media relations, and evolving strategies. Students analyze criminal justice organizations including human resources management, research studies, environmental factors, centralized authority, and other issues.?

**CRIMJUST 10504923**                                      **HPS Health & Fitness Readiness**                                      **3 Credits/Units**  
This course prepares HPS students for their physical agility and physical readiness tests. It also addresses and offers support to strengthen the physical and psychological health of our future first responders.

**CRIMJUST 30504310**                                      **Application of Investigations**                                      **1 Credits/Units**  
Through classroom lecture, on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Phase III topics of the Department of Justice 720 Academy curriculum framework: Ethics II: Moral Reasoning and Professional Responsibility, Cultural Competence II: Fair and Impartial Policing, Interrogations, Testifying in Court, Crimes III and Physical Evidence. The Department of Justice Phase III written examination will be administered at the conclusion of this course.

**CRIMJUST 30504311**                                      **Application of Traffic Response**                                      **3 Credits/Units**

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Through classroom lecture, and on-campus lab, students will learn and apply skills addressed in the following Phase III topics from the WI Department of Justice 720 Academy curriculum framework: Traffic Law Enforcement - Core and Radar, Traffic Crash Investigations & Incident Management, Operating a Motor Vehicle While Intoxicated (OMVWI), Standardized Field Sobriety Tests (SFST), and Report Writing. The Department of Justice Phase III written examination will be administered at the conclusion of this course.

**CRIMJUST 30504312**                      **Physical Fitness**                      **1 Credits/Units**  
Through classroom lecture and on-campus lab students will apply Phases I-III Health Fitness WI Department of Justice 720 Academy curriculum framework program requirements and Officer Wellness Suicide Prevention. The Department of Justice Phase III written examination will be administered at the conclusion of this course.

**CRIMJUST 30504313**                      **Overview of Criminal Justice**                      **1 Credits/Units**  
Through classroom lecture and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following WI Department of Justice 720 Academy Phase I curriculum framework topics: Academy Orientation, Fundamentals of Criminal Justice, Ethics, Cultural Competency, Agency Policy, and Professional Communication. The Department of Justice Phase I written examination will be administered at the conclusion of this course.

**CRIMJUST 30504314**                      **Overview of Investigations**                      **2 Credits/Units**  
Through classroom lecture, on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase I topics: Constitutional Law I, Crimes I, Juvenile Law I, Interviews, Report Writing, and Physical Evidence. The Department of Justice Phase I written examination will be administered at the conclusion of this course.

**CRIMJUST 30504315**                      **Overview of Patrol Response**                      **2 Credits/Units**  
Through classroom lecture, and on-campus lab, and WI Department of Justice integration exercises students will learn and apply skills addressed in the following WI Department of Justice 720 Academy curriculum framework Phase I topics: Critical Thinking and Decision-Making, Basic Response (RESPOND), Radio Procedures, Introduction to TraCS, Traffic Law Enforcement, and First Aid/CPR/AED. This course will also include the WI DOJ 720 Academy Integration Exercises. This course will also include the WI DOJ 720 Academy Integration Exercises. The Department of Justice Phase I written examination will be administered at the conclusion of this course.

**CRIMJUST 30504316**                      **Overview of Tactics**                      **1 Credits/Units**  
Through classroom lecture, and on-campus lab and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase I topics: Fundamentals of Firearms, Vehicle Contacts I, Officer Wellness, and DAAT. The Department of Justice Phase I written examination will be administered at the conclusion of this course.

**CRIMJUST 30504317**                      **Principles of Emergency Vehicle Response**                      **2 Credits/Units**  
Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Department of Justice 720 Academy Phase II topics: Emergency Vehicle Operation and Control (EVOC) and Vehicle Contacts II. The Department of Justice Phase II written examination will be administered at the conclusion of this course.

**CRIMJUST 30504318**                      **Principles of Investigations**                      **1 Credits/Units**  
Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Phase II topics of the WI Department of Justice 720 Academy curriculum framework: Constitutional Law II, Physical Evidence Collections, and Crisis Management. The Phase II Written Exam will be given in this course. The Department of Justice Phase II written examination will be administered at the conclusion of this course.

**CRIMJUST 30504320**                      **Principles of Tactics**                      **5 Credits/Units**  
Through classroom lecture and on-campus lab and integration exercises, students will learn and apply skills addressed in the following Phase II topics from the Department of Justice 720 Academy curriculum frameworks including: Professional Communication Skills II, DAAT, Firearms II, Tactical Response, and a Tactical Emergency Casualty Care. The Department of Justice Phase II written examination will be administered at the conclusion of this course.

**CRIMJUST 30504321**                      **Sensitive Crimes**                      **2 Credits/Units**  
Through classroom lecture, and on-campus lab and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase III topics: Domestic, Juvenile Law, Victims, Sexual Assault, and Child Maltreatment. The DOJ Phase III Written Examination will be administered in this course.

**CRIMJUST 30504361**                      **Basic Jail Officer Academy - Phase 1**                      **3 Credits/Units**



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This course is Phase 1 of the jail officer basic training program mandated by the Wisconsin Department of Justice, Law Enforcement Standards Board and is designed to train officers in the day-to-day operations of a jail facility. They will also receive training in areas that enhance their ability to perform their duties as a jail officer. Training provided will often include, but not be limited to, the following topics: Admit and Release Inmates, Correctional Law, Health Care, Intro to Corrections, Officer Wellness, Maintain Jail Security, Professional Communication Skills, Principles of Subject Control, Reports.

**CRIMJUST 30504362                      Basic Jail Officer Academy - Phase 2                      3 Credits/Units**

This course is Phase 2 of the jail officer basic training program mandated by the Wisconsin Department of Justice, Law Enforcement Standards Board and is designed to train officers in the day-to-day operations of a jail facility. They will also receive training in areas that enhance their ability to perform their duties as a jail officer. Training provided will often include, but not be limited to, the following topics: CPR, Ethics, Fire Safety, Inmate Supervision and Behavior Control, Investigations, Hostage Response, POSC, Suicide Prevention, Supervision of Special Needs Inmate.

**CUL ARTS 10314130                      Dessert Plating                      1 Credits/Units**

Students learn the art of plating desserts in modern contemporary format. Working with various dessert components, students will gain a hands on experience on how to apply plating techniques to desserts.

**CUL ARTS 10316101                      Principles Of Sanitation                      1 Credits/Units**

Covers food service sanitation principles and the role of food service personnel in the prevention of contamination and food borne illness. Certification through the National Restaurant Association Educational Foundation is a requirement for completion and can be used to apply for state certification.

**CUL ARTS 10316104                      Advanced Skills Lab 1                      3 Credits/Units**

Provides students with an introduction to classical and ethnic cooking techniques common to full-service restaurants. Students will have an opportunity to apply and develop skills in the MATC Gourmet Dining Room, a simulated restaurant environment.

**CUL ARTS 10316106                      Food Theory                      2 Credits/Units**

This course provides the opportunity for the learner to develop the knowledge, skills, and understanding of food preparation in commercial kitchens that will enhance their careers.

**CUL ARTS 10316108                      Culinary Baking Fundamentals                      1 Credits/Units**

Provides a general understanding of basic baking principles and knowledge of the functions and appropriate usage of the major ingredients used in production baking. Different types of bakery products are classified according to their characteristics. Ingredient cost-outs are calculated.

**CUL ARTS 10316111                      Professional Cooking 1                      4 Credits/Units**

Students will learn basic skill sets and foundation block of professional cooking in a practical environment. The class develops foundation skills that are used in every kitchen. Emphasis of the class is: sanitation, knife skills, heat transfer, protein cooking, working in teams, Mise en place, sauce production and starch cookery.

**CUL ARTS 10316112                      Cuisines of the World                      2 Credits/Units**

Students will explore foods from North America and other prominent regions of the world. Gives students the opportunity to further practice and reinforce cooking techniques and knife skills needed to produce stocks and sauces, starches, meats, and other food items. Protein fabrication and heat transfer techniques are also covered.

**CUL ARTS 10316115                      Culinary Baking Lab                      2 Credits/Units**

A chef who develops a basic understanding of the baking process will be better able to manage any kitchen situation, including the pastry department. Mastery is not the goal of this course, but rather to develop a foundation in baking principles through hands-on application in a modern baking lab using production equipment. Students will prepare a variety of standard bakery products to obtain knowledge about the many processes of baking. Prerequisites: Culinary Baking Fundamentals, 10-316-108 or concurrent enrollment.

**CUL ARTS 10316118                      Meat Cutting                      2 Credits/Units**

Provides hands-on experience of cutting and fabricating wholesale cuts of meat. The importance of safety and hygiene, equipment utilization and yield costing are also discussed.

**CUL ARTS 10316121                      Professional Cooking 2                      4 Credits/Units**

Further continuation of 316-119 lab with emphasis placed on the demands of running a kitchen and developing quality products and sticking to details. Students will elevate their skills; heat transfer, sanitation, critical thinking, team work, and sauce production. The last eight weeks of the class are devoted to fish & shellfish cookery. The final segment is interpreting menus from the students.

**CUL ARTS 10316130                      Advanced Skills Lab 2                      4 Credits/Units**

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Expanding on the first semester of Intro to Advanced Skills Lab 1, students will incorporate the culinary skills they have learned over the last one-and-a-half of the culinary arts program. Utilizing up to date cooking techniques and following industry standards for high-end foods students will maintain all aspects of the kitchen with the utmost care. With an emphasis on working on presentation, flavors, cooking skills and time management students will gain a real work environment with the lab component of learning to prepare high-end foods. Students are expected to have completed the first semester of Intro to Gourmet before entering the Gourmet Foods class.

**CUL ARTS 10316132                      Waitstaff Training                      2 Credits/Units**

Waitstaff training encompasses the art of service and the importance of front of the house work in the culinary program. Students learn how to properly interact with guest and provide high quality service to guest. They learn the fundamentals of table service and proper techniques for service. Along with gaining insight on guest service students learn the procedures for entering guest orders and interacting with the kitchen staff. They will be provided with management opportunities that will require critical thinking and make important decision on how to handle specific situations.

**CUL ARTS 10316133                      Garde Manger/Decorative Foods                      2 Credits/Units**

This course is designed to give the students a fundamental working knowledge of the cold kitchen. Students will have hand on working experiences and be tested for their knowledge of Garde Manager using quizzes, a written midterm, final exam and one cold platter as a capstone group project. Students will be required to work on projects independently and in-group settings. Students will begin the class by learning the history of Garde Manager and produce products that are made every day on the cold side of our industry to include; ice carving, charcuterie, sandwiches, crackers, cheese and even pickles.

**CUL ARTS 10316134                      Cost Control                      3 Credits/Units**

This course will present concepts and techniques of cost control in the culinary industry. Students select and apply methods, procedures, and systems to control costs and analyze the application, theory and concepts. Focuses on concepts for culinary managers who are responsible for making strategic and proactive decisions to maximize revenues in a cost-efficient way; fixed product supply and varying consumer demand make this a challenge. Focuses on concepts for paying critical attention to core product revenue maximization due to the perishable nature of a service-based product.

**CUL ARTS 10316135                      Dining Room Operations                      2 Credits/Units**

Dining Room Operations focuses on the spirit of hospitality, guest service and the importance of front-of-the-house work in the culinary program in a leadership position. As a dining room manager, students will learn how to properly coach, mentor, and enforce the importance of hospitality & service to guests. Students will stress the fundamentals of table service, proper techniques for service, & lead fellow students in their roles as servers. Students learn from the experience of running a live operating restaurant dining room from a management prospective. Students gain leadership confidence, communication & interaction skill with both front-of-the-house & back-of-the-house staff. They will be provided with management opportunities that will require critical thinking & decision making on how to handle specific situations.

**CUL ARTS 10316139                      Catering                      2 Credits/Units**

Provides an understanding of catering concepts through demonstration and hands-on experience by completing various food functions. The events vary from black tie multi-course dinners for the community to BBQ lunches.

**CUL ARTS 10316140                      Menu Planning                      1 Credits/Units**

This course provides the fundamentals of menu planning. Topics include menu trends, the market survey, nutrition, menu planning, foodservice menus, yield tests, standard recipes, recipe costing, menu development and design, sale history, merchandising, and equipment analysis. Emphasis is placed on developing the skills necessary to effectively create a professional menu.

**CUL ARTS 10316144                      Global Studies Culinary - Italy                      3 Credits/Units**

This course provides the opportunity for the learner to develop the knowledge, skills, process and understanding of the International Slow Food Movement through attending a 3-day symposium in Turino, Italy. The course will take students through the largest outdoor market in Europe to purchase, plan, and construct a meal using local, sustainable organic products at a wine estate, converted into a 30-room agriturismo hotel. Day excursions will include tours and lectures and important wine-making facilities in the area.

**CUL ARTS 10316152                      Nutrition                      1 Credits/Units**

Provides information about nutrition as it applies to the food service industry. The six classes of nutrients are discussed as well as the latest guidelines set forth by governmental agencies and health organizations. Students learn about healthful cooking methods needed to modify and create menus for specific health concerns. The role of diet in disease prevention also is discussed.

**CUL ARTS 10316158                      Food Purchasing Analysis                      1 Credits/Units**

The goal of this course is to enable you to understand all the mechanics of buying food, beverages and goods for a food service establishment. It will also focus on building relations with suppliers, how to use technology to properly store and record goods purchased. Pre-requisite: Appropriate Math Placement test score or equivalent course. This course is offered in an online format only.

**CUL ARTS 10316160                      Pasture to Plate                      3 Credits/Units**

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Studies the farm-to-table journey from pasture to plate. Develop a culinary philosophy that follows the life of the animal to the plate, addresses humane animal harvest, and maximizes usage of the whole carcass. Equate food with livestock and develop knowledge towards a sustainable end product.

**CUL ARTS 10316161**                      **Protein Identification, Fabrication, and Utilization 1**                      **3 Credits/Units**  
Introduction to the muscle and bone structure of beef, veal, pork, lamb, game, and poultry; fabrication methods for sub-primal and foodservice cuts; and proper tying and trussing methods. Analyze national meat identification systems, carcass inspection, quality and yield grading, costing and yield testing, purchasing specifications, and the farm-to-table trail. Learn proper cooking methods for all meats, knife selection, and use of butchery equipment.

**CUL ARTS 10316162**                      **Slaughtering**                      **3 Credits/Units**  
Witness how animals are transported, unloaded, and processed as part of a live animal slaughter; perform animal identification, and document the custody chain, including tagging and trace-ability information.

**CUL ARTS 10316163**                      **Protein Identification, Fabrication, and Utilization 2**                      **3 Credits/Units**  
Identify animal carcasses and the process to cut, portion, label, and transfer meat to storage. Assess meat for quality and follow all safety and sanitation procedures. Determine process for highest value of meat, perform meat grinding, smoking, curing and brining. Create meat sausage and portion prepared meats. Use knife skills and maintain butchering equipment.

**CUL ARTS 10316168**                      **Retail Butcher Sales**                      **3 Credits/Units**  
Participate in the sales of meat items produced from the Protein ID Fabrication 1 and 2 classes. Develop understanding in customer service, inventory, and pricing of meat to be sold. Following safe meat sales and understanding of sanitation as it relates to sales. Utilizing HACCP for any value-added items.

**CUL ARTS 10316178**                      **Americana Cuisine**                      **2 Credits/Units**  
Students will learn the thin line that intersects Americana Cuisine throughout North America--from southwest to Cajun and how certain foods have similar ingredients that carry through to the other cooking styles. Students will also learn the history or roots of each particular style of cooking.

**CUL ARTS 10316189**                      **Breakfast Cookery**                      **1 Credits/Units**  
Students will learn the principles and techniques of breakfast food preparation in a simulated work environment. Products will include eggs, omelets, batters, and starches.

**CUL ARTS 10316194**                      **Culinary Internship**                      **2 Credits/Units**  
The internship program is designed to provide students with an opportunity to relate current educational material from the college classroom to practical experience under the direction of professionals in extended work assignments.

**CUL ARTS 10316195**                      **Hazard Analysis Critical Control Point (HACCP) for Business**                      **2 Credits/Units**  
Butchers, chefs, and food manufacturing companies all need to have Hazard Analysis Critical Control Point (HACCP) plans if they are going to package goods to sell or utilizing specific cooking and storing techniques. The class will explore how to create, develop, and implement a useable HACCP plan.

**DENTAST 31508302**                      **Dental Chairside**                      **5 Credits/Units**  
Prepares dental assistant students to chart oral cavity structures, dental pathology and restorations and to assist a dentist with basic dental procedures including examinations, pain control, amalgam restoration and cosmetic restoration. Student will also develop the ability to educate patients about preventive dentistry, brushing and flossing techniques, and dental procedures, using lay terminology. Throughout the course, students will apply decoding strategies to the correct use and interpretation of dental terminology. Prerequisites: completion of, or concurrent enrollment in, 10-508-101.

**DENTAST 31508307**                      **Dental Assistant Professional**                      **1 Credits/Units**  
Prepares dental assistant students for professional success in a dental practice or another dental health care environment. Students develop professional appearance and image. More importantly, they learn to work within ethical guidelines and legal frameworks. In preparation for entering the work force, dental assistants customize or develop their portfolios and lay out an on-going professional development plan. Prerequisite: acceptance into the Dental Assistant program.

**DENTAST 31508312**                      **Dental Assistant Clinical Lab**                      **1 Credits/Units**  
Students apply skills developed in Dental and General Anatomy, Dental Health Safety, Dental Chairside, Dental Materials, Dental Radiography, and Professionalism in on-campus, mock-clinical experience.

**DENTAST 31508313**                      **Dental Assistant Clinical**                      **2 Credits/Units**  
Students apply skills developed in Dental and General Anatomy, Dental health Safety, Dental Chairside, Dental Materials, Dental Radiography, Professionalism in a clinical setting with patients. Emphasizes integration of core abilities and basic occupational skills.

**DENTHYG 10508101**                      **Dental Health Safety**                      **1 Credits/Units**

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Prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA Standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. CPR certification is prerequisite: students will be required to show proof of certification before beginning the course.

**DENTHYG 10508102** **Oral Anatomy, Embry, Histology** **4 Credits/Units**  
Prepares Dental Hygienist students to apply detailed knowledge about oral anatomy to planning, implementation, assessment, and evaluation of patient care. Students identify distinguishing characteristics of normal and abnormal dental, head, and neck anatomy and its relationship to tooth development, eruption, and health.

**DENTHYG 10508103** **Dental Radiography** **2 Credits/Units**  
Prepares dental auxiliary students to operate x-ray units and expose bitewing, periapical, extra oral, and occlusal radiographs. Emphasis is placed on protection against x-ray hazards. Students also process, mount, and evaluate radiographs for diagnostic value. In this course students demonstrate competency on a manikin. In addition, students expose bitewing radiographs on a peer, role-play patient. Students gain further experience in exposing radiographs on patients in the clinical portion of their program. This course also provides the background in radiographic theory required for students to make informed decisions and adjustments. Prerequisites: completion of, or concurrent enrollment in, Dental Health Safety, 10-508-101, and Dental and General Anatomy, 31-508-304.

**DENTHYG 10508105** **Dental Hygiene Process 1** **4 Credits/Units**  
Introduces Dental Hygiene students to the basic technical/clinical skills required of practicing Dental Hygienists include the use of basic dental equipment, examination of patients, and procedures within the dental unit. Under the direct supervision of an instructor, students integrate hands-on skills with entry-level critical thinking and problem-solving skills. The course also reinforces the application of Dental Health Safety skills.

**DENTHYG 10508106** **Dental Hygiene Process 2** **4 Credits/Units**  
This clinical course builds on and expands the technical/clinical skills student dental hygienists began developing in Dental Hygiene Process 1. Under the direct supervision of an instructor, students apply patient care assessment, planning, implementation, and evaluation skills to provide comprehensive care for calculus case type 1 and 2 patients and perio case patients. This course also introduces the application of fluoride and desensitizing agents, whole mouth assessments, comprehensive periodontal examinations, application of sealants, and patient classification. Students also begin performing removal of supragingival stain, dental plaque, calcified accretions, and deposits. In addition, they gain further experience in exposing radiographs on patients.

**DENTHYG 10508107** **Dental Hygiene Ethics & Profes** **1 Credits/Units**  
Helps student dental hygienists develop and apply high professional and ethical standards. Students apply the laws that govern the practice of dental hygiene to their work with patients, other members of a dental team and the community. Emphasis is placed on maintaining confidentiality and obtaining informed consent. Students enhance their ability to present a professional appearance.

**DENTHYG 10508108** **Periodontology** **3 Credits/Units**  
This course prepares student dental hygienists to assess the periodontal health of patients, plan prevention and treatment of periodontal disease, and to evaluate the effectiveness of periodontal treatment plans. Emphasis is placed on the recognition of the signs and causes of periodontal disease and on selection of treatment modalities that minimize risk and restore periodontal health.

**DENTHYG 10508109** **Cariology** **1 Credits/Units**  
This course focuses on the characteristics and contributing factors of dental decay. Dental Hygiene students help patients minimize caries risk by developing treatment plans, communicating methods to patients, and evaluating treatment results. Prerequisites: satisfactory completion of all first semester, second year Dental Hygiene courses and concurrent enrollment in 10-508-124.

**DENTHYG 10508110** **Nutrition and Dental Health** **2 Credits/Units**  
Prepares student dental hygienists to counsel patients about diet and its impact on oral health. Students learn to distinguish between balanced and unbalanced diets and to construct diets that meet the needs of patients with compromised dental/oral health. Students also learn to counsel patients about the effect of eating disorders on dental health.

**DENTHYG 10508111** **General and Oral Pathology** **3 Credits/Units**  
This course prepares the student dental hygienist to determine when to consult, treat or refer clients with various disease, infection or physiological conditions. Students learn to recognize the signs, causes, and implications of common pathological conditions including inflammatory responses, immune disorders, genetic disorders, developmental disorders of tissues and cysts, oral tissue trauma, and neoplasm of the oral cavity.

**DENTHYG 10508112** **Dental Hygiene Process 3** **5 Credits/Units**  
This clinical course builds on and expands the technical/clinical skill student dental hygienists developed in Dental Hygiene Process 2. In consultation with the instructor, students apply independent problem-solving skills in the course of providing comprehensive care for calculus case type 1, 2, and 3 patients and perio case type 0, I, II, and III patients. This also introduces root detoxification using hand and ultra-sonic instruments, a selection of dental implant prophylaxis treatment options, and administration of chemotherapeutic agents. Students also adapt care plans in order to accommodate patients with special needs.

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<b>DENTHYG 10508113</b>	<b>Dental Materials</b>	<b>2 Credits/Units</b>
Prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products, and impression materials. They also learn to take alginate impressions on manikins and clean removable appliances. This course is aligned to serve accepted students of Dental Hygiene and Dental Assistant programs.		
<b>DENTHYG 10508114</b>	<b>Dental Pharmacology</b>	<b>2 Credits/Units</b>
Prepares student dental hygienists to select safe and effective patient premedication and within the scope of dental hygiene practice. Students will also learn to recognize potential pharmacological contraindications for specific patients and to take measures to avoid negative impact or alert other members of the dental team to possible negative impact.		
<b>DENTHYG 10508115</b>	<b>Community Dental Health</b>	<b>2 Credits/Units</b>
This course prepares the Dental Hygienist student to play a proactive role in improving the dental health of community members of all ages. Students perform and interpret dental health research to determine community dental health needs.		
<b>DENTHYG 10508117</b>	<b>Dental Hygiene Process 4</b>	<b>4 Credits/Units</b>
This clinical course builds on and expands the technical/clinical skills student dental hygienists developed in Dental Hygiene Process 3. With feedback from the instructor, students manage all aspects of cases in the course of providing comprehensive care for calculus case type 0, 1, 2, and 3 patients and for perio case type 0, I, II, and III patients. Emphasizes maximization of clinical efficiency and effectiveness. Prepares student dental hygienists to demonstrate their clinical skills in a formal examination situation.		
<b>DENTHYG 10508118</b>	<b>Dental Anxiety and Pain Management</b>	<b>2 Credits/Units</b>
This course prepares the student dental hygienist to work within the scope of dental hygiene practice to manage anxiety and pain for dental patients. Students learn to prepare and administer local anesthesia and nitrous oxide safely. The course also addresses the recommendation of alternative pain control measures.		
<b>DENTHYG 10508304</b>	<b>Dental &amp; General Anatomy</b>	<b>2 Credits/Units</b>
Prepares Dental Assistant students to apply fundamentals of general and dental anatomy to informed decision making and to professional communication with colleagues and patients. Prerequisites: acceptance into the Dental Assistant program.		
<b>DIESEL 10412100</b>	<b>Diesel Shop Skills Fundamentals</b>	<b>2 Credits/Units</b>
Includes a discussion of the job requirements, skills needed, career options and employment opportunities in diesel equipment repair and maintenance. Introduces shop procedures, safety practices, tools and using service manuals.		
<b>DIESEL 10412110</b>	<b>Metalworking for Heavy-Duty Applications</b>	<b>2 Credits/Units</b>
This course focuses on welding and metal cutting safety as it applies to heavy-duty applications. Students will learn to setup and use welding and cutting equipment to weld and cut a variety of types and thicknesses of materials commonly used in heavy-duty applications. Skill development emphasis will be placed on cutting metal with oxy-fuel and plasma arc methods. Welding techniques and procedures for SMAW and GMAW will also be included. In addition, students will have the opportunity to demonstrate layout procedures and complete fabrication projects.		
<b>DIESEL 10412112</b>	<b>Mobile Hydraulics</b>	<b>3 Credits/Units</b>
Prepares the student with the knowledge and skills needed to adjust, diagnose, service and repair mobile hydraulic systems found on trucks and construction equipment.		
<b>DIESEL 10412125</b>	<b>Cab Climate Control and Refrigeration Systems</b>	<b>3 Credits/Units</b>
Lectures/labs provide skills to diagnose, maintain and service air conditioning and transport refrigeration equipment found on truck trailers and off-road equipment.		
<b>DIESEL 10412137</b>	<b>Preventive Maintenance Inspections</b>	<b>4 Credits/Units</b>
This course will provide the opportunity to perform preventive maintenance inspections and conduct minor repairs on heavy-duty trucks and equipment. An overview of the Federal Motor Carrier Safety Regulations as they relate to the inspection, repair and maintenance of commercial motor vehicles will also be included.		
<b>DIESEL 10412138</b>	<b>Diesel Shop Management</b>	<b>2 Credits/Units</b>
The student will gain the knowledge needed to function in a typical service department setting. The student will learn what it takes to manage a service department, the costs involved in running the department and the day-to-day problems that arise in the service department. General business operational procedures, record keeping and cost effectiveness will also be part of this course.		
<b>DIESEL 10412144</b>	<b>Fundamental Diesel Electrical/Electronics Systems</b>	<b>3 Credits/Units</b>
Theory and laboratory experiences in this course are designed to introduce the student to the diesel electrical/electronic systems used on today's modern trucks and construction equipment. Fundamental theory of electricity and electronics, troubleshooting techniques, use of digital multimeter and current clamp, types of electrical circuits, wiring, components, batteries and the use of wiring diagrams will be covered.		

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<b>DIESEL 10412145</b>	<b>Electrical/Electronics Systems Diagnostics</b>	<b>3 Credits/Units</b>
Theory and laboratory experiences in this course are designed to give the student the knowledge and skills needed to diagnose, service, and repair heavy-duty electrical systems found on today's modern trucks and off-road equipment.		
<b>DIESEL 10412155</b>	<b>Heavy Duty Drivetrains</b>	<b>4 Credits/Units</b>
This course prepares the student with the knowledge and skills needed to adjust, diagnose, maintain, service and repair heavy duty drivetrains found on trucks and construction equipment.		
<b>DIESEL 10412164</b>	<b>Brake and Suspension Systems</b>	<b>4 Credits/Units</b>
Prepares the student with the knowledge and skills needed to adjust, diagnose, service and repair heavy duty brakes and suspension systems. Students will also perform vehicle alignment procedures and utilize various alignment equipment.		
<b>DIESEL 10412175</b>	<b>Fuel Systems</b>	<b>2 Credits/Units</b>
Lectures and labs allow students to diagnose, service, and repair diesel fuel systems found on trucks and agricultural equipment.		
<b>DIESEL 10412177</b>	<b>Diesel Engine Diagnostics</b>	<b>3 Credits/Units</b>
Lectures and labs use the latest in diagnostic equipment to evaluate engine performance and diagnose power complaints on mechanical and computer controlled diesel fuel injection systems.		
<b>DIESEL 10412184</b>	<b>Diesel Engine Technology</b>	<b>2 Credits/Units</b>
Study in this course will allow the student to develop a basic knowledge of design, construction and operating principles of the diesel engine. Service, maintenance and the types of repairs made on diesel engines and diesel engine support systems will be a major emphasis of the course.		
<b>DIESEL 10412185</b>	<b>Diesel Engine Repair</b>	<b>4 Credits/Units</b>
Teaches students to maintain, service and repair diesel engines and engine support systems. The course also includes precision measuring, failure analysis and parts inspection.		
<b>DIESEL 10412188</b>	<b>Electronic Control Systems</b>	<b>3 Credits/Units</b>
This course provides the student with the experience needed to diagnose and service modern electronic control systems used on trucks and construction equipment. The course includes electronic controlled diesel engines, ABS brake systems, electronic controlled transmissions and other computer controlled electronic vehicle systems.		
<b>DIESEL 10412189</b>	<b>Heavy Duty Emission Control Systems</b>	<b>3 Credits/Units</b>
Teaches students to maintain, service, and repair emission control systems found on heavy duty diesel and alternate fueled engines. The course also includes fault diagnosis, failure analysis, and component inspection for reusability.		
<b>DIESEL 10412190</b>	<b>Diesel Equipment Laboratory Experience 1</b>	<b>1 Credits/Units</b>
Students service various trucks, construction and industrial equipment. Emphasizes daily shop operations, procedures and safe work habits. Simulated on-the-job experiences develop and apply students' knowledge and skills. Prerequisite: all first year courses.		
<b>DIESEL 10412195</b>	<b>Occupational Experience 1 - Diesel</b>	<b>2 Credits/Units</b>
As interns, students work on electrical/electronic systems, vehicle and equipment maintenance, heavy duty brakes, suspensions, drive trains and general shop maintenance. Types of jobs and competencies employed may vary depending on what area of the industry the employer represents. Technical competencies for this course may be performed either alone, as an experienced technician's helper or a combination thereof. Prerequisites: all first year program courses.		
<b>DRAMA 20810230</b>	<b>Intro To Theatre</b>	<b>3 Credits/Units</b>
This is a beginning study of theatre especially as it relates to modern audiences. Students will examine and experience theatre in its various forms. A survey of theatre history from a global perspective provides the foundation for a greater understanding and perspective of the art. This course is an opportunity to explore playwriting, acting, directing and design leading to critical analysis of production. Students are expected to analyze scripts and attend performances turning in written reviews. The sequence of this course begins with audience perspective layered with historical and performance perspectives.		
<b>DRAMA 20810232</b>	<b>International Arts Intensive-Theatre</b>	<b>3 Credits/Units</b>
Provides a unique immersion in which participants will study the interdisciplinary nature of the arts. Students will travel to an international arts center to explore the connections that exist among the disciplines of music, theater, and visual art. Historical, geographical, and cultural perspectives will be examined to enhance understanding of live performance experiences in both theater and music. Based on site-specific study, students will apply aesthetic values to the description of music and theater styles.		
<b>DRAMA 20810235</b>	<b>Stagecraft 1</b>	<b>3 Credits/Units</b>
Stagecraft 1 is an overview of the backstage elements involved in theatrical production. It provides basic knowledge of scenery, lighting, rigging, sound, props, costumes and stage management. Students have the opportunity to mix classroom with practical experience.		

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<b>DRAMA 20810236</b>	<b>Stagecraft 2</b>	<b>3 Credits/Units</b>
Develops the skills introduced in Technical Theater 1 and explores the design aspects of scenery, lighting, sound and costumes for the stage. Students are encouraged to develop interest in theory, design execution and portfolio preparation.		
<b>DRAMA 20810238</b>	<b>Cultural Diversity in Contemporary American Theater</b>	<b>3 Credits/Units</b>
Cultural Diversity in Contemporary American Theater investigates the representation of gender, ageism, sexual identity and racial stereotypes in written and performance forms. The course explores how popular images are created and reinforced by writers, directors, and performers. Students will analyze performance, scripts, and video documentation, as well as developing an original work of theatrical expression.		
<b>DRAMA 20810260</b>	<b>Drama Practicum (1 cr)</b>	<b>1 Credits/Units</b>
Drama Practicum is designed to engage and challenge students actively involved in theatre programming at Madison College or with a partner theatre organization from the community. This practicum stresses the self-development of artistic proficiency of theatre students. There is a minimum of 36 hours of service required for a 1 credit practicum.		
<b>DRAMA 20810261</b>	<b>Drama Practicum (2cr)</b>	<b>2 Credits/Units</b>
Drama Practicum is designed to engage and challenge students actively involved in theatre programming at Madison College or with a partner theatre organization from the community. This practicum stresses the self-development of artistic proficiency of theatre students. A minimum of 72 service hours are required for the 2 credit practicum.		
<b>DRAMA 20810262</b>	<b>Acting 1</b>	<b>3 Credits/Units</b>
Acting 1 explores the actor's process in preparing for a role. It covers basic acting principles, including action, objective, obstacles, conflict, beats and being in the moment. It incorporates fundamentals of movement, voice and improvisation essential to the art of acting. Students will examine scripts, do character analysis, maintain actors' journals and perform five graded exercises.		
<b>DRAMA 20810263</b>	<b>Acting 2</b>	<b>3 Credits/Units</b>
Acting 2 continues the actor's preparation and execution of believable roles as a member of an ensemble. Particular attention is addressed to script analysis, character development, and ensemble performance in relation to theatrical genre.		
<b>DRAMA 20810270</b>	<b>Movement Theory &amp; Training for Actors</b>	<b>1 Credits/Units</b>
Movement Theory and Training for Actors is an introductory course designed to assist acting students to better understand physical movement, the relationship between training and energy, and the use of physical movement in character development.		
<b>EARLYCHL 10307108</b>	<b>ECE: Early Language and Literacy</b>	<b>3 Credits/Units</b>
In this second training experience, students apply the knowledge and skills acquired in Practicum 1 and related class work under the supervision of MATC faculty and teacher-caregivers at centers. Planning and implementing activities are included and conferences are scheduled to help students. Prerequisites: 10-207-106 and concurrent enrollment in 10-307-104 and 10-307-114.		
<b>EARLYCHL 10307110</b>	<b>ECE: Social Studies, Art, and Music</b>	<b>3 Credits/Units</b>
This 3-credit course will focus on beginning level curriculum development in the specific integrated content areas of social studies, art, music, & movement (SSAMM).		
<b>EARLYCHL 10307112</b>	<b>ECE: STEM (Science, Technology, Engineering, and Mathematics)</b>	<b>3 Credits/Units</b>
This 3-credit course will focus on beginning level curriculum development in the specific integrated content areas of science, technology, engineering, and mathematics (STEM).		
<b>EARLYCHL 10307115</b>	<b>ECE: Infant Toddler Capstone</b>	<b>3 Credits/Units</b>
The capstone is the last course all students take prior to completing the Infant Toddler Credential. This course integrates the theory, practice, and reflection of courses 1-3 and requires demonstration of best practices. Supervised demonstration in the learner's own infant/toddler setting. Student portfolio development is required. Students must be in an early childhood setting with infants or toddlers during this course.		
<b>EARLYCHL 10307148</b>	<b>ECE: Foundations of Early Childhood Education</b>	<b>3 Credits/Units</b>
This 3-credit course introduces you to the early childhood profession. Course competencies include: explore the concepts of diversity, cultural responsiveness, and anti-bias as it relates to early childhood education, investigate the history of early childhood education, examine regulatory requirements for early childhood education programs in WI, summarize types of early childhood education settings, identify the components of a quality early childhood education program, summarize responsibilities of early childhood education professionals, explore early childhood curriculum models and examine the critical role of play as it relates to developmentally appropriate practice.		
<b>EARLYCHL 10307151</b>	<b>ECE: Infant &amp; Toddler Development</b>	<b>3 Credits/Units</b>

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In this 3-credit course you will study infant and toddler development as it applies to an early childhood education setting. Course competencies include: integrate strategies that support diversity, cultural responsiveness, and anti-bias perspectives; analyze development of infants and toddlers (conception to thirty-six months); correlate prenatal and postnatal conditions with development; summarize child development theories; analyze the role of heredity and the environment; examine culturally and developmentally appropriate environments for infants and toddlers, examine the role of brain development in early learning (conception through thirty-six months); examine caregiving routines as curriculum; and examine developmental and environmental assessment strategies for infants and toddlers.

**EARLYCHL 10307167**                      **ECE: Health, Safety, & Nutrition**                      **3 Credits/Units**  
This course examines the topics of health, safety and nutrition within the context of the early childhood educational setting. Course competencies include: follow governmental regulations and professional standards as they apply to health, safety and nutrition; provide a safe, healthy, and nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; incorporate health, safety and nutrition concepts into the children's curriculum.

**EARLYCHL 10307169**                      **ECE: Infant Toddler Group Care**                      **3 Credits/Units**

**EARLYCHL 10307174**                      **ECE: Introductory Practicum**                      **3 Credits/Units**  
In this practicum course you will learn about and apply the course competencies in an actual childcare setting. The first of four training experiences develops skill in interacting with children and staff. Madison College faculty help students through periodic observation and conferences. In addition, there is a weekly discussion which focuses on what students are observing and learning in their practicum sites and on developing skills as team members. Students taking Introductory Practicum must also be enrolled in at least one other Early Childhood Education course. The preferred course would be Health, Safety, and Nutrition.

**EARLYCHL 10307175**                      **ECE: Preschool Practicum**                      **3 Credits/Units**  
In this course you will be placed or working in an early childhood setting with 3-5 year old children and create a portfolio. You will be implementing activities that meet regulations and standards for quality early childhood education, applying knowledge of child development and positive guidance, utilizing observation and assessment techniques, and assessing developmentally appropriate environments for preschoolers. This course will also apply as the capstone course in The Registry Preschool Credential.

**EARLYCHL 10307177**                      **ECE: Intermediate Practicum**                      **3 Credits/Units**  
In this 3-credit course you will be implementing regulations and standards for quality early childhood education, applying knowledge of child development and positive guidance, utilizing observation and assessment techniques, and assessing developmentally appropriate environments for children.

**EARLYCHL 10307179**                      **ECE: Child Development**                      **3 Credits/Units**  
The 3-credit course examines child development within the context of the early childhood education setting. Course competencies include: integrate strategies that support diversity, cultural responsiveness, and anti-bias perspectives; analyze social, cultural, and economic influences on child development; summarize child development theories; analyze development of children ages three through five; analyze development of children ages five through eight; relate child development research findings to teaching practice; analyze the role of heredity and the environment; examine the role of brain development in early learning (ages 3-8); examine developmental and environmental assessment strategies for children ages 3-8.

**EARLYCHL 10307181**                      **ECE: Child Care Operations Management**                      **3 Credits/Units**  
Course 2 of the Administrator Credential. Includes discussion and practical applications related to scheduling, staffing, facilities management, equipment acquisition and maintenance, services delivery, record keeping and communication.

**EARLYCHL 10307182**                      **ECE: Child Care Financial Management**                      **3 Credits/Units**  
Review of principles and practices in budget planning and preparation and fiscal management, including hands-on experience with program applications.

**EARLYCHL 10307184**                      **ECE: Child Care External Environment**                      **3 Credits/Units**  
Course 4 of the Administrator Credential. Review of external factors which affect the operation of early care and education programs including determination of community child care needs, marketing, laws and regulations, working with government and community agencies, political and societal issues and trends.

**EARLYCHL 10307185**                      **ECE: Child Care Best Practices**                      **3 Credits/Units**  
Course 5 of the Administrator Credential. Establishing and maintaining quality programs based on professional standards and the best available information on child growth and development and family friendly environment/services. Includes a review of literature and research studies; licensing laws and regulations; criteria for staff credentials (CDA) and the accreditation of programs by the National Academy of Early Childhood Programs; funding requirements and performance standards, such as those for Head Start.

**EARLYCHL 10307186**                      **ECE: Child Care Administrator Capstone**                      **3 Credits/Units**



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Course 6 of the Administrator Credential. This is the culminating experience in the credential course sequence. Major individual projects are required with a focus on the integration of program aspects in developing strategic planning for change. 3 credits. Prerequisites: Courses 1 through 5 of WPCCCA course sequence.

**EARLYCHL 10307187**                      **ECE: Children w diff Abilities**                      **3 Credits/Units**

This 3-credit course focuses on the child with differing abilities in an early childhood education setting. Course competencies include: integrate strategies that support diversity, cultural responsiveness, and anti-bias perspectives; promote inclusive programs for young children; apply legal and ethical requirements including, but not limited to, ADA and IDEA; examine the consultation process to embed intervention in natural based settings; differentiate between typical and exceptional development; analyze the differing abilities of children with physical, cognitive, health/medical, communication, and/or behavioral/emotional disorders; identify community and professional resources; interpret an individual educational plan (IEP/IFSP) for children with developmental differences; adapt curriculum to meet the needs of children with developmental differences; examine strategies for cultivating partnerships with families who have children with developmental differences.

**EARLYCHL 10307188**                      **ECE: Guiding Children's Behavior**                      **3 Credits/Units**

This 3-credit course examines positive strategies to guide children's behavior in the early childhood education setting. Course competencies include: integrate strategies that support diversity, cultural responsiveness, and anti-bias perspectives; analyze techniques for and effects of strong relationship-building with children and families; identify positive and proactive guidance principles and techniques to support children; analyze environmental influences on child behavior; identify strategies that support children's active engagement in the learning environment; identify strategies that proactively teach emotional literacy and regulation techniques; identify strategies that proactively teach friendship skills; identify strategies that proactively teach children calming, relaxation, and problem-solving techniques; utilize observation and assessment techniques to assess and interpret behavior; create a behavior support plan based on a functional behavior assessment; create a guidance philosophy. This course meets the requirements of the "24 hour Wisconsin" Pyramid Model training.

**EARLYCHL 10307195**                      **ECE: Family & Community Relations**                      **3 Credits/Units**

In this 3-credit course you will examine the role of relationships with family and community in early childhood education. Course competencies include: implement strategies that support diversity, cultural responsiveness, and anti-bias perspectives when working with families and community; analyze contemporary family patterns and trends; identify strategies to strengthen and support families; explore effective communication strategies; discover strategies for developing respectful and reciprocal relationships with families; analyze strategies to promote family engagement in early childhood education programs; explore a variety of formats for meeting with families in their contexts; advocate for children and families; and explore community resources that provide a range of services for children and families.

**EARLYCHL 10307199**                      **ECE: Advanced Practicum**                      **3 Credits/Units**

In this final 3-credit practicum course you will demonstrate competence in supporting child development through observation, assessment and implementation of teaching strategies as you work in and learn about and apply the course competencies in an actual early childhood setting. You will demonstrate a high level of skill in fostering relationships with children, families and early childhood professionals, and use skills learned in a lead teacher role to develop a career plan to transition from student to early childhood education professional.

**EARLYCHL 10307204**                      **ECE: Child Care Admin and Supervision**                      **3 Credits/Units**

Course one of the Administrator Credential. This course provides an overview of roles and responsibilities of directors, coordinators, supervisors and other administrators in early childhood programs.

**EARLYCHL 10307260**                      **ECE: Building a Foundation for Understanding Diversity**                      **3 Credits/Units**

Students will be required to explore the historical context of racism and discrimination, reflect deeply on their own identity, culture, intersectionality and biases, and begin to consider steps they can take toward growth.

**EARLYCHL 10307261**                      **ECE: Building on the Assets of Families and Cultures**                      **3 Credits/Units**

Students will learn about how to build on the assets of diverse families. They will learn how to engage families while respecting their different backgrounds, welcome families and solicit their involvement so teachers and families can work collaboratively in the best interest of their child.

**EARLYCHL 10307262**                      **ECE: Culturally Appropriate Interactions and Guidance**                      **3 Credits/Units**

Students will learn about culturally appropriate interactions and guidance for young children. Students will explore their own biases; reflect on their intentional and unintentional beliefs that lead to their responses when working with children from backgrounds different from their own. Students will also begin to recognize the disparity of equity that may impart a cumulative emotional and historical trauma across generations while learning how to interact and guide children that may be affected by such.

**EARLYCHL 10307263**                      **ECE: Authentic Curriculum that Connects with Children**                      **3 Credits/Units**

Students will learn about the importance of creating curriculum that connects with children from diverse backgrounds. Students will also explore their role as leaders in the classroom and their program in creating a culturally competent environment for children and families. Students will create a capstone project as a summative assessment intended to demonstrate and display what they have learned throughout the four courses comprising this credential.

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<b>EARTHSCI 20806241</b>	<b>Earth Science</b>	<b>3 Credits/Units</b>
Earth Science introduces the physical nature of the earth. The course covers topics in geology, geography, meteorology, oceanography and astronomy. Physical processes and an understanding of their causes and effects are investigated		
<b>EARTHSCI 20806244</b>	<b>General Geology</b>	<b>4 Credits/Units</b>
This course introduces the student to the composition and structure of the earth, its surface features and the processes that have shaped and produced these features. The course consists of three one-hour lectures per week and a two-hour weekly lab session. The laboratory is meant to reinforce topics and concepts covered in lecture, and provide hands-on examination of geologic maps, rocks and minerals.		
<b>EARTHSCI 20806245</b>	<b>Weather And Climate</b>	<b>3 Credits/Units</b>
This course discusses nature and variability of temperature, precipitation, clouds and wind. Topics include storm systems, fronts, thunderstorms, tornadoes, hurricanes and their predictions, climate, climactic change, seasonal changes, air composition, global winds and special problems related to meteorology.		
<b>EARTHSCI 20806246</b>	<b>Survey of Oceanography</b>	<b>3 Credits/Units</b>
This course introduces the student to the ocean sciences. The student will investigate the origin of the oceans, ocean chemistry, ocean circulation, waves, tides, sediments and the biology of the ocean. An emphasis will be on the connections between the ocean and the atmosphere, the structure of the ocean basins and life in the oceans. To reinforce the course concepts, the students will interpret current data and maps during class assignments.		
<b>EARTHSCI 20806247</b>	<b>Earth Science Lab</b>	<b>1 Credits/Units</b>
This is a one-credit introductory science lab course that investigates the physical aspects of the Earth System. This lab course is offered as a compliment to the 3-credit Earth Science lecture course (20-806-241). The course focuses on the interactions between the geosphere, hydrosphere, biosphere and atmosphere. Students will complete labs that focus on understanding landscape evolution and human interactions with the environment.		
<b>EARTHSCI 20806248</b>	<b>Weather and Climate Laboratory</b>	<b>1 Credits/Units</b>
This course introduces weather and climate via hands-on means with three areas of emphasis: weather map analysis, atmospheric physics experimentation, and making weather observations. Weather map analysis will revolve around the construction of surface weather maps from plotting, isopleth analysis, and interpretation. Atmospheric physics experiments will demonstrate aspects of how the atmosphere works. Making weather observations and discussing weather instrumentation (where those observations come from!) will be part of the course via an online weather journal.		
<b>EARTHSCI 20806249</b>	<b>Geologic Evolution of the Earth</b>	<b>4 Credits/Units</b>
This four-credit lab science course introduces the student to the history of the Earth, with a focus on the evolution of the continents and the fossil record. Students will learn about geologic time, including how geologists built the geologic time scale. Basic aspects of geology, including plate tectonics, minerals and the rock cycle will be covered. Students will learn about the origin of life on earth, evolution and extinction, how fossil plants, invertebrates and vertebrates are classified. Students will gain an understanding of the Earth's geologic history as known from rock and fossil evidence.		
<b>EARTHSCI 20806250</b>	<b>Climate and Climate Change</b>	<b>3 Credits/Units</b>
Climate and climate change are topics that have been widely discussed and scrutinized by scientists, businesses, and governments over the last few decades. This class will focus on the science of climate and how climate can change on multiple temporal and spatial scales, both naturally and by human activity. Topics discussed include how climate is described, what controls climate, climate cycles and feedbacks, how climate is modeled, and observations of climate change.		
<b>EARTHSCI 20806251</b>	<b>Undergraduate Geology Field Experience</b>	<b>2 Credits/Units</b>
This course is a multi-day, hands-on learning geology experience for students who are interested in the earth sciences. Students will participate in a field trip to important geological locations and gain experience identifying minerals, rocks and fossils in the field. Students will practice making observations and interpretations on geology and will learn how to "see" geology in the field. Field trip destination may vary depending on the instructor leading the course.		
<b>EARTHSCI 20806252</b>	<b>Natural Hazards</b>	<b>3 Credits/Units</b>
The course will focus on the physical processes that create environmental hazards (e.g., earthquakes, volcanoes, severe weather), the primary controls on their frequency and intensity, and how human decision-making can influence the magnitude of impact that they have when they inevitably occur.		
<b>ECON 10809195</b>	<b>Economics</b>	<b>3 Credits/Units</b>

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This course introduces basic economic principles to help you better understand the world in which you live. In addition to learning how the U.S. economy works and how it sometimes fails, you will develop a deeper understanding of issues such as why college tuition costs are rising; how wages for workers in your chosen field are determined; whether the minimum wage should be increased; why some people argue for, and others against, an expansion of international trade; how to maximize profits if you someday start your own business; and how federal government and banking system policies affect your life and the overall economy.

### **ECON 20809211**

#### **Macro Economics**

**3 Credits/Units**

This course provides an introduction to basic economic principles with applications to current economic problems affecting the overall performance of a nation's economy. The course begins with an analysis of the role of markets and prices in an economy. Topics include the causes and consequences of unemployment, inflation, and economic growth; the role of money and banking in the economy; the role of government taxing and spending policies to correct market failure and stabilize the economy; the implications of budget deficits and the national debt; and the implications of an increasingly global economy. This course is designed to meet the need for college transfer credit.

### **ECON 20809212**

#### **Micro Economics**

**3 Credits/Units**

This course provides an introduction to basic economic principles with applications to current economic problems affecting individuals and businesses. The course begins with an in-depth analysis of the role of markets and prices in an economy, with emphasis on when markets work well and when they fail to yield the best outcome for the society. Topics include how individuals choose to best use their limited resources; the causes and consequences of poverty and the distribution of income and wealth; the behavior of businesses in setting prices and production levels; problems of monopoly power; wage determination in labor markets; and the economics of environmental challenges. This course is designed to meet the need for college transfer credit.

### **ECON 20809214**

#### **Intro International Econ**

**3 Credits/Units**

Introduction to International Economics examines issues in international trade and international finance and the interconnectedness of the world's economies. Topics include the economic arguments for trade, current trade policies and practices, the effects of trade restrictions, free trade and fair trade, foreign exchange markets, and the role of international institutions such as the World Bank, the International Monetary Fund and the World Trade Organization. Current issues such as currency crises and free trade agreements will also be discussed.

### **ECON 20809228**

#### **Environmental Economics**

**3 Credits/Units**

This course prepares the student to analyze the interaction between economic activity and the earth's physical environment. Emphasis is placed on the impacts surrounding natural resource markets, including energy and minerals, agriculture, forests, fisheries and tourism. Economic concepts include social welfare analysis, externality costs, market failure, the time value of money, economic valuation of non-market goods, definitions of economic efficiency, risk analysis and definitions of "growth". Environmental impacts may include toxicity to ecosystems, species extinction, soil erosion, fresh water quality and availability, degradation of the marine environment, air pollution, ozone depletion and global warming. Political issues include, but are not limited to the trading of pollution credits, the debate over nuclear power, genetic engineering issues, land use planning, environmental racism, international dynamics and inter-generational equity.

### **EDFOUND 20809216**

#### **Introduction to Education and Teaching**

**3 Credits/Units**

Students are introduced to education and teaching through practical experience in school settings, group discussions, and individual reflection. We will explore the relationships among education, curriculum, and instruction across contexts of home, community, and school, connecting school practices with philosophical perspectives of education.

### **EDFOUND 20809217**

#### **Introduction to Special Education**

**3 Credits/Units**

An introduction to common terms and issues of students with disabilities. Emphasis on inclusion, diversity issues, and legislative mandates? including nondiscriminatory assessments, parent/community involvement, individualized education programs, and professional practice with multidisciplinary approaches to supporting children with disabilities in a diverse society.

### **ELEC 50413528**

#### **Electric Controls for Mechanical Equipment 2**

**1 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

### **ELEC 50413529**

#### **Electrical Controls for Mechanical Equipment 3**

**1 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

### **ELEC 50413530**

#### **Tech Electrical 1**

**4 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

### **ELEC 50413531**

#### **Tech Electrical 2**

**4 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

### **ELEC 50413532**

#### **Tech Electrical 3**

**2 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

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<b>ELEC 50413533</b>	<b>Tech Electrical 4</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413534</b>	<b>Tech Electrical 5</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413535</b>	<b>Tech Electrical 6</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413554</b>	<b>Electric Controls of Mechanical Equipment 4</b>	<b>1 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413570</b>	<b>Tech Electrical 7</b>	<b>2 Credits/Units</b>
<b>ELEC 50413571</b>	<b>Tech Electrical 8</b>	<b>2 Credits/Units</b>
<b>ELEC 50413580</b>	<b>Trade Electrical Semester 1</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413581</b>	<b>Trade Electrical Semester 2</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413582</b>	<b>Trade Electrical Semester 3</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413583</b>	<b>Trade Electrical Semester 4</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413584</b>	<b>Trade Electrical Semester 5</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413585</b>	<b>Trade Electrical Semester 6</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413586</b>	<b>Trade Electrical Semester 7</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413587</b>	<b>Trade Electrical Semester 8</b>	<b>2 Credits/Units</b>
This course description is unavailable at this time. Please contact the center offering the course for more information.		
<b>ELEC 50413701</b>	<b>Fundamentals of Electricity for Apprentices</b>	<b>1 Credits/Units</b>
Explore the principles and applications of direct current and Ohm's Law, and examine the various types of circuits and meters during this apprenticeship course. Discuss additional topics such as electrical power, magnetism, relays, energy, and transducers. Electrical testing and measurement will be reviewed, and electrical safe work practices will be examined.		
<b>ELEC 50413758</b>	<b>Codes for Industrial Electricians 7: Motors and Generators</b>	<b>0.5 Credits/Units</b>
Course seven of 8 reviews the code requirements for the selection of electrical components for typical industrial electrical motor installations. Course module includes sizing of controls, conductors, switches, branches, and more.		
<b>ELEC 50413759</b>	<b>Codes for Industrial Electricians 8: Transformers</b>	<b>0.5 Credits/Units</b>
Course eight of 8 reviews the electrical code requirements which provide for the protection of various industrial transformer installations. Course competencies include developing plans, sizing equipment and components, safety, and references to applicable sections of the NEC.		
<b>ELEC 50413768</b>	<b>Industrial Electrician Solid State Electronics</b>	<b>2 Credits/Units</b>
Provides the apprentice with the skills and knowledge for troubleshooting basic solid-state devices and circuits. The construction, identification, and operating characteristics of solid-state devices are investigated. The apprentice builds test circuits, gathers and analyzes data, and follows safety procedures. Methods for locating defective components are applied. The replacement of printed circuit board components is performed. Also examined is the effect of temperature on the operation of solid-state devices.		
<b>ELEC 50413769</b>	<b>Industrial Electrician Programmable Logic Controllers 1</b>	<b>1 Credits/Units</b>
Designed to teach the fundamentals of programmable logic controller and its programming software. The first course of 3 will introduce terminology, concepts, print reading and safety.		

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**ELEC 50413770 Industrial Electrician Programmable Logic Controllers 2 1 Credits/Units**  
The second of 3 courses for industrial electrician apprentices

**ELEC 50413771 Industrial Electrician Programmable Logic Controllers 3 1 Credits/Units**  
The third course of 3 for industrial electrician apprentices. PLC applications and assessment projects are planned.

**ELEC-IND 50413750 DC Electricity for Industrial Electricians 2 Credits/Units**  
This course introduces the fundamental concepts and computations related to DC electricity. Emphasis is placed on circuit analysis and the problem solving skills necessary for the maintenance of modern industrial electric systems. Competencies related to metering and safe use of measuring devices are included.

**ELEC-IND 50413751 AC Electricity for Industrial Electricians 2 Credits/Units**  
This course is designed to introduce the industrial electrical apprentice to the basic concepts of alternating current. Emphasis is placed on circuit analysis and the problem solving skills necessary for the maintenance of modern industrial electric systems.

**ELEC-IND 50413752 Codes for Industrial Electricians 1: Introduction to the NEC 0.5 Credits/Units**  
Introduces the apprentice to the layout and purpose of the National Electric Code. It also strives to teach the apprentice proper methodology to research a code question and correctly interpret what they are reading. Various examples in the textbook and activity sheets help guide the apprentice through this process. Apprentices will research the structure of the National Electric Code and define the requirements of the code that are common to all electrical installations. In addition, apprentices will examine the installation requirements for fire pumps, emergency systems and fire alarms. This is the first course module of 8 dealing with electrical codes applicable to the trade.

**ELEC-IND 50413753 Codes for Industrial Electricians 2: OCPD and Electrical Device Installations 0.5 Credits/Units**

In this module of Codes for Industrial Electricians, apprentices will learn how to plan for the installation of overcurrent protection devices and how to select the proper boxes, cabinets and conduits for industrial electrical installations as called for in the NEC and other electrical codes. This is the second of 8 course modules on the NEC.

**ELEC-IND 50413754 Codes for Industrial Electricians 3: Article 250 Part A 0.5 Credits/Units**  
Course three of 8 examines the application of grounding to industrial electrical situations as required by the NEC and other electrical codes.

**ELEC-IND 50413755 Codes for Industrial Electricians 4: Article 250 Part B 0.5 Credits/Units**  
Course four of 8 on the NEC continues to examine Article 250 and grounding applications for industrial electrical installations. Apprentices will complete their review of this portion of the NEC and examine additional related electrical codes in effect across Wisconsin.

**ELEC-IND 50413756 Codes for Industrial Electricians 5: Article 300, Cords/Cables, and Hazardous Installations 0.5 Credits/Units**

Course five of 8 examines article 300 of the NEC and wiring methods for industrial electrical applications. In addition, apprentices will determine sizing requirements for cords and cables for installations common to industrial facilities. Finally, the course will identify code requirements for equipment installations in hazardous locations.

**ELEC-IND 50413757 Codes for Industrial Electricians 6: Conductors, Raceways and Data/Communication Cables 0.5 Credits/Units**

Course six of 8 covers the selection of proper conductors and raceways for industrial electrical installations as required by the NEC and other electrical codes. In addition, course competencies will include examining the installation requirements for data and communication cables.

**ELEC-IND 50413760 Industrial Electrician Transformers 1 Credits/Units**  
Designed to introduce the Industrial Electrician Apprentice to the basic concepts of single and three-phase transformers. The course will cover transformer theory, turns, current and voltage ratios as well as proper connections and use of various transformers.

**ELEC-IND 50413761 Industrial Electrician Motors & Generators 1 Credits/Units**  
This is the first course of 3 courses for industrial electrician apprentices to explore motor controls. This course introduces concepts, terminology, and safety. In addition, this is designed to give the Industrial Electrician Apprentice the knowledge required by industry to maintain electric motors and generators. This course material will cover DC motors and generators, single-phase and three-phase motors, as well as alternators.

**ELEC-IND 50413762 Industrial Electrician Motor Controls 1 1 Credits/Units**

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Course will lead you through the fundamentals of electric motor control. You will learn to recognize and draw the basic symbols, the language of motor control, and how to apply these symbols, into current industrial format. You will also learn to draw and read ladder and wiring diagrams. You will be introduced to the logic used in motor control and be required to apply this logic in order to correctly interpret, design, and wire control circuits.

**ELEC-IND 50413763**                      **Industrial Electrician Motor Controls 2**                      **1 Credits/Units**

The second course of 3 and examines motor controls applicable to the industrial electrician trade.

**ELEC-IND 50413764**                      **Industrial Electrician Motor Controls 3**                      **1 Credits/Units**

The third of three courses examining motor controls applicable to the industrial electrician trade. Applications and assessment activities are intended in this course.

**ELEC-IND 50413765**                      **Power Systems & Variable Speed Drives for Industrial Electricians**                      **2 Credits/Units**

Provides the opportunity for students to learn about power systems and variable speed drives (VSD's). Topics include electricity, electronics, power transmissions, motor operations, AC and DC motor drives, servo and stepper drives, peripherals and communication. Apprentices will also explore closed loop control, feedback devices, and drive maintenance and the troubleshooting of VSD's. Course includes lab/shop and classroom lecture-lab hours.

**ELEC-IND 50413766**                      **Fluid Power Systems for Industrial Electricians - Pneumatics**                      **0.5 Credits/Units**

This is a pneumatics course customized for industrial electrician apprentices who deal with fluid power systems. This course will relate the basics of pneumatic theory and pneumatic components. Safety and the interrelationship between pneumatic power with electrical control is emphasized.

**ELEC-IND 50413767**                      **Fluid Power Systems for Industrial Electricians- Hydraulics**                      **0.5 Credits/Units**

The hydraulics course is customized for Industrial Electricians and relates the basics of hydraulic theory and hydraulic components. Safety and the interrelationship between hydraulic power with electrical control is emphasized.

**ELEC-IND 50413772**                      **Green Awareness for the E&I Trades**                      **1 Credits/Units**

Examines new and emerging technologies influenced by green trends which are impacting work processes today and in the future. Introduces apprentices to green related knowledge and skills. Green topics covered in this course include energy efficiency; energy conservation; changes in state, national and local codes; lighting alternatives; alternative energy generation; energy efficient motors, drives, controllers and equipment; eliminating toxic materials and reducing wastes; and specific 'green' applications for the various trades involved under the E&I trades.

**ELEC-IND 50413773**                      **Safety & Print Reading for Industrial Electricians**                      **0.5 Credits/Units**

This course will acquaint the apprentice with the interpretation of "Prints" (blueprints) and other engineering and manufacturing documentation. The primary focus of the course will be on the basics of prints and how they are used to convey information to technicians. Application of electrical prints from industrial settings will be studied.

**ELECENG 10662112**                      **AC/DC Electronics 3**                      **3 Credits/Units**

Topics include analysis of series and parallel AC RLC circuits, utilizing series and parallel equivalent circuits, superposition, Delta-Wye transformations, and Nodal Analysis. Real, reactive, and apparent power in AC circuits along with ideal loads in both single and three phase circuits are studied. Lab work includes analysis, computer simulation and actual measurements.

**ELECENG 10662124**                      **Advanced Circuit Analysis**                      **3 Credits/Units**

Topics include variable frequency analysis of RLC circuits, first order Bode plots and correlation of time and frequency response. Semiconductor devices and circuits, including diodes, bipolar transistors and field effect transistor are studied. The time and frequency response of single stage BJT and FET amplifiers is examined. Lab work includes analysis, computer simulation and actual measurements.

**ELECT 10605101**                      **Electronics Internship Level 1**                      **3 Credits/Units**

This course provides the opportunity for students to apply classroom theory and skills in a business environment. Activities may include PCB assembly, embedded programming, troubleshooting, and repair. Students learn useful skills based on field experience.

**ELECT 10605102**                      **Electronics Internship Level 2**                      **3 Credits/Units**

This course provides the opportunity for students to apply classroom theory and skills in a business environment. Activities may include PCB assembly, embedded programming, troubleshooting, and repair. Students learn useful skills based on field experience.

**ELECT 10605107**                      **Certified IPC Application Specialist (CIS) A-610**                      **1 Credits/Units**

Certified IPC Application Specialist (CIS) training focuses on what line workers, operators, inspectors and buyers need to know to inspect or make acceptance/rejection decisions. IPC-A-610, Acceptability of Electronic Assemblies is the most widely used standard published by the IPC. Certification in this industry-traceable program demonstrates a commitment to continuous improvement of product quality and reliability. The CIS program provides individuals with a portable credential that represents their understanding of IPC-A-610.

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<b>ELECT 10605108</b>	<b>Certified IPC Application Specialist (CIS) J-STD-001</b>	<b>1 Credits/Units</b>
<p>Certification in this industry-developed and approved hands-on solder training and certification program helps enhance employee skills and performance. The CIS program provides individuals with a portable credential that recognizes their soldering skills and understanding of this internationally recognized standard.</p>		
<b>ELECT 10605112</b>	<b>AC/DC Electronics 1</b>	<b>3 Credits/Units</b>
<p>Covers basic concepts of electric circuits including: Ohm's Law; Kirchhoff's Voltage, and Current Laws; power calculations; and components such as resistors, switches, fuses, conductors, insulators, capacitors, inductors, relays, and other basic electronic components. Also covers use of test equipment.</p>		
<b>ELECT 10605113</b>	<b>Analog Circuit Techniques</b>	<b>3 Credits/Units</b>
<p>This introductory electronics course covers devices, circuits and applications. This course uses analog electronics devices — diodes, field effect and bipolar transistors and operational amplifiers to learn basic theory and use of test equipment in testing and troubleshooting. Lab procedures emphasize the use of documentation (schematics, layout diagrams, parts lists, data sheets) and troubleshooting procedures.</p>		
<b>ELECT 10605114</b>	<b>AC/DC Electronics 2</b>	<b>3 Credits/Units</b>
<p>This course continues to develop the concepts learned in AC/DC Electronics 1, 10605112. This course covers RL, RC, RLC circuits; transformers; filters; series and parallel resonance; bridge circuits; Thevenin and Norton theorems; wave shaping; internal resistance; motors; generators; three phase power; power factor and corrections; reactive and apparent power; wye and delta systems. Lab sessions require in-depth technical lab reports.</p>		
<b>ELECT 10605115</b>	<b>Analog Circuit Principles</b>	<b>3 Credits/Units</b>
<p>This course continues to develop the concepts learned in Analog Circuit Techniques, 10-605-113. The theory and application of field effect and bipolar transistor amplifiers, operational amplifiers and oscillators are covered with an emphasis on circuits including gain, impedance and frequency response. Lab procedures emphasize increased proficiency with electronic test equipment.</p>		
<b>ELECT 10605116</b>	<b>Engineering Project Principles</b>	<b>3 Credits/Units</b>
<p>This is a project based course centering on analog circuit applications. This course emphasizes hands-on skills, assembly, testing and troubleshooting, documentation, group work and presentations.</p>		
<b>ELECT 10605118</b>	<b>Digital Circuit Techniques</b>	<b>3 Credits/Units</b>
<p>This introductory electronics course covers schematics, component identification, engineering notation, basic logic gates, numbering systems, component identification, and soldering techniques for through hole and surface mount components. IPC-A-610* Standard for Acceptance Criteria for Electronic Assemblies is followed for inspection of assemblies. Following the RoHS directive, lead free solder and assemblies are used in this course. *IPC certification is not automatic upon course completion. IPC certification is awarded separately from the academic credits.</p>		
<b>ELECT 10605119</b>	<b>Digital Circuit Principles</b>	<b>3 Credits/Units</b>
<p>Covers digital logic circuits including basic gates, flip-flops, decoders, counters, shift registers, multiplexing circuits, comparators and other similar devices. It also covers Boolean algebra and minimization techniques as well as Field Programmable Gate Arrays (FPGA). Lab work includes individual project design, including layout, construction, testing and documentation.</p>		
<b>ELECT 10605123</b>	<b>Embedded Device Concepts</b>	<b>3 Credits/Units</b>
<p>Embedded Concepts focuses on embedded programming with a hardware emphasis. Arduino development boards are used heavily in this course to explore programming and troubleshooting. Variables, conditionals, mathematical operations, functions, loops, interrupts, libraries, event sequencing, flow charts, visual programming and general Embedded C programming are covered throughout this course. Students will engage with Arduino development boards to understand compilation, downloading, and troubleshooting of embedded code in a target microprocessor.</p>		
<b>ELECT 10605136</b>	<b>Biomedical Electronics</b>	<b>3 Credits/Units</b>
<p>Course covers the biological and medical applications of electronics. Topics include biological systems and signals (ECG, EEG, etc.); sensor and transducer circuits including: thermistors, thermocouples, and strain gauges. Other topics include instrumentation amplifiers and circuits; noise reduction; passive and active filtering; medical imaging systems; and medical telemetry systems. Prerequisite: 10-605-112 or equivalent.</p>		
<b>ELECT 10605143</b>	<b>Motors and Control Circuits</b>	<b>3 Credits/Units</b>
<p>This advanced course covers AC and DC motors, stepping motors, feedback systems, servo controllers, sensors, relays, SCRs, Triacs, MOSFETs, programmable logic controllers, industrial controllers, and applied systems and online microcomputer controls.</p>		
<b>ELECT 10605145</b>	<b>Programmable Logic Controls</b>	<b>3 Credits/Units</b>
<p>Studies basic operation, interfacing and programming of PLCs and Human Machine Interfaces (HMI). Concepts, construction and troubleshooting of ladder logic and proprietary programming systems are covered.</p>		

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- ELECT 10605151                                    Instrumentation and Troubleshooting                                    3 Credits/Units**  
This advanced course covers the approach, methodology and techniques in trouble shooting electronic circuits and systems as well as the calibration, uses and limitations of common electronic test equipment.
- ELECT 10605152                                    Digital Systems Analysis    3 Credits/Units**  
This is a project based advanced course focusing on digital circuits, embedded controllers and interfacing. The course emphasizes hands-on skills, assembly, testing and troubleshooting, documentation, working in groups and presentations.
- ELECT 10605160                                    Virtual Reality    3 Credits/Units**  
Course covers the concept of virtual reality (VR); its history and development; human senses; hardware and important concepts and methods of software design and development. Course also covers sensors and actuators (visual, audio, tactile); displays including screens, goggles, headsets, etc.; telepresence and telerobotic systems; and applications in a variety of fields including entertainment, design, business, medical, telerobotics, remote control, education and others.
- ELECT 10605172                                    Applied Electronic Math 2    2 Credits/Units**  
Continues to develop the mathematics skills needed by technicians to be successful in their field and is closely tied to the other second-semester electronics courses. Laboratory sessions continue to integrate math with electronic applications. Course is only offered in the last 8 weeks of each semester.
- ELECT 10605173                                    Embedded Programming    3 Credits/Units**  
This introductory course covers the fundamentals of electronic computer language, systems and structure. Embedded processor hardware is studied from a system level perspective. Programming structures such as loops, branching, data storage, bit-level processing (masking), functions, arrays, pointers and structures will be covered. Languages include ANSI C, Embedded C Language and principles of assembly language.
- ELECT 10605176                                    Microcontrollers    3 Credits/Units**  
This course covers microcontrollers and digital systems. Topics include Embedded C programming of Microcontrollers, Basic architectural concepts, parallel and serial I/O, Interrupts, Timer Subsystems, Analog to Digital conversion, Asynchronous Serial Communications (USART), CAN Bus communications, Synchronous Serial Communications (MSSP/SPI/IC2 Bus), Pulse Width Modulation (PWM), and basic control concepts.
- ELECT 10605178                                    Networks, Interfacing and Programming    3 Credits/Units**  
This advanced course focuses on networking fundamentals and implementation with an emphasis on Linux. Explores Network layers and Protocols, LabView and FPGA Programming, wireless standards, and Hardware Configuration and programming of various Ethernet connected devices (computers, microcontrollers, remote sensors, control equipment and other hardware).
- EMS 10531102                                    Emergency Medical Technician 1    2 Credits/Units**  
Based upon the State of Wisconsin/U.S. Department of Transportation/National Highway Transportation Safety Administration curriculum, this approximately 54 hour course covers modules 1-3 and includes classroom instruction, lectures, discussion, demonstrations, skill practice on the roles and responsibilities of being an Emergency Medical Services Provider, as well as basic communication and documentation skills, anatomy and physiology, performing a patient assessment, critical thinking, and basic airway management. This course is a co-requisite of the EMT 2 course.
- EMS 10531103                                    Emergency Medical Technician 2    3 Credits/Units**  
This course is a co-requisite of the EMT 1 course and continues the State of Wisconsin/U.S. Department of Transportation/National Highway Transportation Safety Administration curriculum. This approximately 130 hour course covers modules 4-8 and includes classroom instruction, lectures, discussion, demonstrations, online assignments, and skill practice on emergent medical and traumatic encounters, dealing with special populations, and EMS Operations. Ten real-life or high-fidelity patient care experiences are required. Successful completion of EMT 1 and EMT 2 prepares students to obtain licensure as an EMT Basic in the State of Wisconsin. This course is a co-requisite of the EMT 1 course.
- EMS 10531911                                    EMS Fundamentals    2 Credits/Units**  
This course provides the paramedic student with comprehensive knowledge of EMS systems, safety, well-being, legal issues, and ethical issues, with the intended outcome of improving the health of EMS personnel, patients, and the community. The students will obtain fundamental knowledge of public health principles and epidemiology as related to public health emergencies, health promotion, and illness/injury prevention. Introducing students to comprehensive anatomical and medical terminology and abbreviations will foster the development of effective written and oral communications with colleagues and other health care professionals. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.
- EMS 10531912                                    Paramedic Medical Principles    4 Credits/Units**  
This course addresses the complex depth of anatomy, physiology, and pathophysiology of major human systems while also introducing the paramedic students to the topics of shock, immunology, and bleeding. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.



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- EMS 10531913                                      Adv Patient Asses Principles                                      3 Credits/Units**  
This course teaches the paramedic student to integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. By utilizing a structured and organized assessment process with knowledge of anatomy, physiology, pathophysiology, life span development, and changes that occur to the human body with time, the students will learn to develop a list of differential diagnoses through clinical reasoning, along with the ability to modify the assessment as necessary to formulate a treatment plan for their patients.
- EMS 10531914                                      Adv Pre-Hospital Pharmacology                                      3 Credits/Units**  
This course provides the paramedic student with the comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the overall health of the patient. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.
- EMS 10531915                                      Paramedic Respiratory Management                                      2 Credits/Units**  
This course teaches the paramedic student to integrate complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patient airway, adequate mechanical ventilation, and respiration for patients of all ages. Specific knowledge pertaining to the respiratory system is also provided to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a patient with a respiratory complaint. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.
- EMS 10531916                                      Paramedic Cardiology                                      4 Credits/Units**  
This course teaches the paramedic student to integrate assessment findings with principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a cardiovascular complaint. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.
- EMS 10531918                                      Advanced Emergency Resuscitation                                      1 Credits/Units**  
By teaching Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) methodologies and protocols, this course prepares the paramedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest states with an emphasis on early intervention to prevent respiratory and/or cardiac arrest if possible. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.
- EMS 10531919                                      Paramedic Medical Emergencies                                      4 Credits/Units**  
This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a medical complaint. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.
- EMS 10531920                                      Paramedic Trauma                                      3 Credits/Units**  
This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for an acutely injured patient. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.
- EMS 10531921                                      Special Patient Populations                                      3 Credits/Units**  
This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for patients with special needs. Gynecological emergencies, along with special considerations in trauma are also included within this course. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.
- EMS 10531922                                      EMS Operations                                      1 Credits/Units**  
This course provides the paramedic student with the knowledge of operational roles and responsibilities to ensure patient, public, and EMS personnel safety. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.
- EMS 10531923                                      Paramedic Capstone                                      1 Credits/Units**  
This course provides the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through labs and scenario-based practice and evaluations prior to taking the National Registry written and practical examinations. Technical skills attainment (TSA) for each student will be compiled and/or documented within this course as required by the DHS-approved paramedic curriculum. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.
- EMS 10531925                                      Paramedic Clinical 1                                      1 Credits/Units**  
This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in health care environments such as the Emergency Department, Respiratory Therapy, and Operating Room, with actual patients under the supervision of clinical preceptors. Students will also participate in multidisciplinary high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical competency requirements at the paramedic level as defined by WI DHS EMS. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

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**EMS 10531926** **Paramedic Clinical 2** **1 Credits/Units**  
This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in health care environments such as the Emergency Department, Trauma-Life Support Center, Burns Center, and Cardiac Cath Labs, with actual patients under the supervision of clinical preceptors. Students will also participate in multidisciplinary high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical competency requirements at the paramedic level as defined by WI DHS EMS. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

**EMS 10531927** **Paramedic Clinical 3** **1 Credits/Units**  
This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in health care environments such as the Emergency Department, Pediatric Care, and Birthing Centers, with actual patients under the supervision of clinical preceptors. Students will also participate in multidisciplinary high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical competency requirements at the paramedic level as defined by WI DHS EMS. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

**EMS 10531928** **Paramedic Field Internship** **3 Credits/Units**  
This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine and EMS Operations in the field environment with actual patients under the supervision of an approved paramedic preceptor. Successful completion of this course requires the student to meet all clinical and field competency requirements at the paramedic level as defined by WI DHS EMS. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

**EMS 10531929** **Paramedic Clinical 4** **1 Credits/Units**  
This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and health care environment experiences with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

**EMS 30531360** **Advanced Emergency Medical Technician** **4 Credits/Units**  
Students learn advanced patient assessment, communication skills and beginning advanced life support interventions. Prepares students to obtain licensure as an EMT Intermediate Technician in the State of Wisconsin.

**EMTEC 10620100** **Introduction to PLCs** **1 Credits/Units**  
Introductory study of PLC Programming overview (parts, principles of operation, size and applications), PLC components (I/O modules, specifications, CPU, memory, programming options), Number systems and codes (binary, decimal, hexadecimal, BCD, ASCII, binary arithmetic), Fundamentals of Logic (binary concept, AND, OR, NOT functions, Boolean algebra, logic gates, word level instructions), Basics of programming in RSLogix500 (memory organization, program scan, programming languages, instruction addressing, XIC, XIO, OTE instructions, creating ladder logic), PLC installation practices, editing, and troubleshooting (enclosures, electrical noise, grounding, voltages, program editing, program monitoring, preventive maintenance, troubleshooting, connecting to your PLC to your PC)

**EMTEC 10620101** **Programmable Logic Controllers 1** **3 Credits/Units**  
Fundamentals of programmable logic controller (PLC) installation, interfacing, operation, and programming. Students learn about PLCs connected to Windows-based PCs running state-of-the-art programming tools. Students study discrete and analog input and output; hardware sensor interfacing and troubleshooting techniques; fundamentals of digital systems and will program PLCs using timer, counter, latch, data movement, sequencing, integer arithmetic and other instructions.

**EMTEC 10620102** **Programmable Logic Controllers 2** **3 Credits/Units**  
Advanced programmable logic controller (PLC) installation, interfacing, operation, and programming. Students learn how to connect advanced PLCs in a typical industrial PLC network utilizing Ethernet, DH+, RS232 and RIO communication paths. Data sharing and distributed PLC programming techniques along with fundamentals of touch panel programming and operation are studied.

**EMTEC 10620104** **Interfacing Sensors with Computer Controls** **3 Credits/Units**  
Applies various sensors to analog input modules of programmable controllers and to A/D converters for computer systems.

**EMTEC 10620106** **Robotics for Industrial Automation 1** **1 Credits/Units**  
FANUC Robotics based introductory study of applications, operation, programming and troubleshooting of Industrial Robots. Prepares the learner to identify the component parts of a robot; describe teach pendant and robot functions; power up the robot control in proper sequence; jog in Joint and Cartesian movement; identify axis movements; navigate the teach pendant to set up the robot for desired movement; demonstrate working knowledge of arm speed and inching control; select the Frames of reference used by the coordinate system; edit an existing program.

**EMTEC 10620108** **Robotics for Industrial Automation 2** **2 Credits/Units**

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FANUC Robotics based advanced study of applications, operation, programming and troubleshooting of Industrial Robots. Prepares the learner to establish and modify robot axis soft limits; navigate the teach pendant to set up the robot for automatic operation; define the Frames of reference used by the coordinate system; create multiple Tool Frames; create a program file; write a functional motion instruction; edit, copy and delete an existing program; demonstrate the use of a wait statement; demonstrate the use of a Call statement; demonstrate the use of an Output statement; and upload and download program memory files. Backup and restore the Controller image

**EMTEC 10620110** **Vision for Robotics in Industrial Automation** **2 Credits/Units**

This course prepares the learner to program a vision systems as a stand-alone solution and integrate into robotic systems. The student will receive instruction on general vision concepts, including camera setup, lighting, lensing, 2D Single & 2D Multiple View Process and perform hands-on programming with industrial vision systems.

**EMTEC 10620112** **Integration Introduction** **2 Credits/Units**

The planning, documenting, fabrication, assembly and programming of electro-mechanical components is used to introduce students to the principles of integrating automated machines. This course applies the project management, and CAD 2D skills related to electro-mechanical automated systems. The study of motion sequences and control drawings as well as Gantt chart creation and application will be used within this class. Machine efficiencies and trouble-shooting of desktop electro-pneumatic controls is applied.

**EMTEC 10620114** **Integration of Mechanisms and Controls 1** **4 Credits/Units**

The student will apply the concepts of robots and automation by building a small automation system. This automation cell will be accomplished within the framework of an assigned team of students. Student will apply learned concepts studied in previous classes. These concepts will assist in building, testing, and running their automated work cell. Student will develop, and apply project planning, time management and cooperative methods with their team members to build their work cell. Student will learn how to design and make parts for this project. Student also will specify and purchase parts as well as, analyze system malfunctions, which may occur to the modular level. Student will practice the skills needed to interface and make repairs.

**EMTEC 10620116** **Integration of Mechanisms and Controls 2** **4 Credits/Units**

Focuses on integration of a complete manufacturing cell. Typical components include programmable controllers, robot, sensors, drives, conveyors, pneumatics, hard automation, control wiring and vision. Students plan, wire, program, troubleshoot and develop documentation for the whole system.

**ENGLISH 10801195** **Written Communication** **3 Credits/Units**

Develops writing skills which includes prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents.

**ENGLISH 10801197** **Technical Reporting** **3 Credits/Units**

Prepare and present written, oral, and visual communication products, including instructions, proposals, informal and formal reports. Produce clear, usable communication by incorporating information design principles, arranging content to satisfy diverse audience needs, and presenting visuals for various contexts. Designed as an advanced course to develop collaborative communication practices, information literacy skills, and ethically responsible professional communication strategies.

**ENGLISH 20801201** **English 1** **3 Credits/Units**

The first course in communication skills at the college level, developing student abilities in critical reading, writing, listening, and speaking, for both exposition and argumentation. The course emphasizes summarizing, analyzing, and synthesizing information from sources, and develops research and presentation skills. The class assumes competence in English grammar and paragraph structure.

**ENGLISH 20801202** **English 2** **3 Credits/Units**

This course is a continuation of English 1. Students will use advanced research skills to write papers from across the curriculum. Research papers will be informative and persuasive in nature and will be based on topics from academic disciplines (social sciences, literature and the humanities, or science and mathematics). Students will conduct research using primary and secondary library resources, surveys and questionnaires, observation, and interviews and will use the MLA format and one other format (APA, Chicago) to document their sources. Students will be asked to prepare 25-35 pages of polished writing.

**ENGLISH 20801204** **Introduction to Literature** **3 Credits/Units**

Recommended as a first course in literary analysis, this course introduces students to the major genres of literature and addresses issues related to writing about literature and/or other texts. Individual sections may focus on a particular literary theme or emphasis.

**ENGLISH 20801207** **World Indigenous Literatures** **3 Credits/Units**

World Indigenous Literatures studies indigenous issues in an international context by comparing literature and film produced by Native American and other indigenous writers and filmmakers in the U.S., Canada, New Zealand, Australia, and the Indigenous Pacific. The selection of authors represents indigenous people who have remained in their homelands as minority nations within First World countries.

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<b>ENGLISH 20801211</b>	<b>Gay &amp; Lesbian Literature</b>	<b>3 Credits/Units</b>
This course examines work by representative authors in American literature written by and about lesbian and gay people from the 19th century to the present, including short stories, novels, drama, poetry and film. Works will be analyzed in regard to both specific and universal messages they have to offer, for non-gay and gay readers alike.		
<b>ENGLISH 20801212</b>	<b>Ethnic Literature</b>	<b>3 Credits/Units</b>
Special Topics in Ethnic Literature explores questions of identity within various cultural contexts. Writers represent one or more ethnic groups working in one or more genres of literature with emphasis on developments in voice, genre, and style over chronological and geographical periods. Individual sections may vary in particular emphasis.		
<b>ENGLISH 20801213</b>	<b>Native American Literature</b>	<b>3 Credits/Units</b>
Native American Literature introduces students to rich, complex and varied literary traditions reflected in the works of contemporary Native American storytellers in fiction, poetry, drama, and film. Issues of language, cultural identity, historical witness, and current social and political experiences are reflected in these genres. The works are discussed in terms of specific cultural and universal themes, and their place in the emerging Native American literary canon.		
<b>ENGLISH 20801214</b>	<b>African American Literature</b>	<b>3 Credits/Units</b>
African American Literature introduces students to the rich, complex and varied literary traditions reflected in the works of African American writers. Studies developments and achievements in voice, genre, and style and explores issues of language, cultural identity, historical witness, and social and political experience. Individual sections may focus on a particular theme, genre, or period for emphasis.		
<b>ENGLISH 20801215</b>	<b>British Literature 1</b>	<b>3 Credits/Units</b>
This course examines major authors, works, and periods of British literature from its foundations to the early eighteenth-century within the context of historical, cultural, and philosophical developments.		
<b>ENGLISH 20801216</b>	<b>British Literature 2</b>	<b>3 Credits/Units</b>
British Literature 2 examines British fiction, biography, autobiography, poetry, and drama from the 1740s through the late twentieth century.		
<b>ENGLISH 20801217</b>	<b>American Literature 1</b>	<b>3 Credits/Units</b>
Examines major authors and works from the early 16th to the late 19th century in American prose, drama, and poetry.		
<b>ENGLISH 20801218</b>	<b>American Literature 2</b>	<b>3 Credits/Units</b>
Examines major authors and works from the late 19th century to the present in American prose, drama, and poetry.		
<b>ENGLISH 20801219</b>	<b>Western World Lit: Classical Antiquity to the Middle Ages</b>	<b>3 Credits/Units</b>
This course studies Egyptian and Sumerian myths and legends, and the outstanding literary masterpieces of Western literature, from the Old Testament and Homer to the end of the Renaissance (16th century). The first semester is not a prerequisite of the second.		
<b>ENGLISH 20801220</b>	<b>Western World Lit: Early Renaissance to Present</b>	<b>3 Credits/Units</b>
This is a study in the outstanding literary masterpieces of Western literature from the Neoclassic period to modern times. The first semester is not a prerequisite of the second.		
<b>ENGLISH 20801221</b>	<b>Literature and Popular Culture</b>	<b>3 Credits/Units</b>
Students analyze, interpret, and discuss literature and diverse forms of popular culture as artistic and cultural representation. Each offering of literature in popular culture will be organized in the same way: a) Four units that deal with four different aspects of the course topic. b) Each unit will ask students to read a selection of each of the following: critical works—usually an article or articles or excerpts from a book—that offer definition of the genre, provided historical context, establish a relation between the thematic content and culture, and fosters discussion and critical analysis. c) Each unit will have at least two primary "texts", including, but not limited to books, journal articles, films, sound recordings, graphic novels, electronic environments, blogs, & multimedia presentations. d) Written assignments will include, but will not be limited to: informal discussion board postings and responses to other postings, summaries and definitions, formal response papers and essays, one sustained project that brings together the themes and elements discussed in the class. e) Other assignments may include reading quizzes.		
<b>ENGLISH 20801222</b>	<b>U.S. Latino Literature</b>	<b>3 Credits/Units</b>
This course explores U.S. Latino texts, including poetry, fiction, drama, and autobiography by Mexican-American, Puerto-Rican American, Cuban-American and Dominican-American writers. Writers from other Latino groups may also be included. Class discussion examines the rich and varied literary traditions of Latino communities in the United States. Students analyze issues of theme, genre, language, cultural identity and social and political experiences, as reflected in the texts chosen for the course. Classes are conducted in English. All required texts were originally written in English or are offered in English translation.		
<b>ENGLISH 20801223</b>	<b>Peace, Conflict, and Literature: The Arts of the Contact Zone</b>	<b>3 Credits/Units</b>

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Mary Louise Pratt defines Contact Zones as "social spaces where cultures meet, clash, and grapple with each other, often in contexts of highly asymmetrical relations of power." She goes on to describe the Arts of the Contact Zone as "exercises in storytelling ... collaborative work ... ways for people to engage suppressed aspects of history ... ground rules for communication across lines of difference and hierarchy." This course will introduce students to the arts of the contact zone by introducing them to 1) representations of peace and conflict in literature and film; 2) the theory of and strategies for conflict resolution and peace building. Through reading, writing, observations, presentations, discussion, and field and project work, students in this course will critically explore representations of peace and conflict at the personal, local, civil, and international levels. Students will explore across genres, media, time periods, cultures, and disciplines. Throughout this exploration, students will examine literature and film in order to 1) identify and describe sources of conflict; 2) analyze and explain how conflict is communicated, prevented, and/or resolved; and 3) discover how great writers and thinkers as well as ordinary citizens can work for peace.

**ENGLISH 20801224** **Special Topics in International Literature** **3 Credits/Units**  
Special Topics in International Literature provides the opportunity for students to study, in English, the great works of literature from other countries and other languages. The course focuses on writers representative of a particular language and/or culture working in one or more genres of literature, with emphasis on developments in content and style. Individual sections may vary in particular emphasis.

**ENGLISH 20801226** **Introduction to African Literature** **3 Credits/Units**  
Introduction to African Literature focuses mainly on the literature of Africa from before colonization to the present. It introduces students to the rich, complex, and varied literary traditions reflected in the works of African writers. It studies developments and achievements in voice, genre, and style and explores issues of language, cultural identity, historical witness, and social and political experience. Individual sections will focus on a particular theme, genre, or period for emphasis.

**ENGLISH 20801227** **Children's Literature** **3 Credits/Units**  
Introduces students to the major genres of literature for young people such as folklore, illustrated works, and short novels. Students will read a variety of works from different eras and study ways children's literature and the understanding of childhood have developed.

**ENGLISH 20801229** **Contemporary Lit** **3 Credits/Units**  
This course surveys contemporary literature (mainly British and American) in relation to contemporary society and to major developments in the arts of fiction, drama and poetry. Readings mainly cover material published in the last 25 years.

**ENGLISH 20801230** **Classical Mythology** **3 Credits/Units**  
Classical Mythology surveys principal myths and legends of Greek and Roman literature in relation to the historical and sociological context of ancient society as well as their importance and influence in modern times. The course will include the reading and analysis of translations of original classical works.

**ENGLISH 20801231** **19th c. Russian Literature in Translation** **3 Credits/Units**  
19th c. Russian Literature in Translation will provide the opportunity for students to study, in English, the great works of literature from 19th c. Russia. While World Literature courses already provide a broad survey of literature from around the world, this course would focus on the specific culture and literature of Russia during the 19th century.

**ENGLISH 20801232** **20th c. Russian/Soviet Literature in Translation** **3 Credits/Units**  
This course is designed to present a survey of Russian literature in a period of political, cultural, and aesthetic revolution, beginning with avant-garde movements before the Bolshevik Revolution and the dynamic literary response in the 1920s to the revolution itself, including examples of Socialist Realism, dissident and émigré literature, continuing through the periods of the Thaw and Perestroika. Readings include Chekhov, Zamyatin, Olesha, Bulgakov, Pasternak, Solzhenitsyn and others.

**ENGLISH 20801240** **Creative Writing** **3 Credits/Units**  
Students learn to manage the creative process through exercises and activities that lead to short stories and poetry; drama and creative non-fiction may be addressed as well. Reading assignments allow students to become familiar with principles and practice of various genres of creative writing and classroom activities prepare students for participating in workshop discussions.

**ENGLISH 20801241** **Creative Writing/Fiction** **3 Credits/Units**  
Students develop skills in writing prose fiction including character development, scene structure, dialogue and dramatic tension as they build toward the construction and revision of short stories, novellas, etc. Reading assignments allow students to become familiar with principles and practice of fiction. Class meetings follow a workshop format.

**ENGLISH 20801242** **Creative Writing/Drama** **3 Credits/Units**  
Students write monologue and dialogue, develop characters and build scripted scenes and short dramas for stage, video, cinema, or docudrama. Reading assignments allow students to become familiar with principles of dramatic practice. Class meetings follow a workshop format. Course may be paired with 810-237, Creating Original Theatre to create a six-credit writer-performer workshop.

**ENGLISH 20801243** **Creative Writing/Poetry** **3 Credits/Units**

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Students develop poetic technique in open and traditional forms as they draft, critique, and revise poems. Reading assignments allow students to become familiar with principles and practice of poetry and poetics. Class meetings follow a workshop format.

### **ENGLISH 20801244**

#### **Creative Writing/Non Fiction**

**3 Credits/Units**

Students merge literary techniques with the skills of reportage to develop works of creative non-fiction. Reading assignments allow students to become familiar with principles and practice of literary non-fiction. Class meetings follow a workshop format.

### **ENGLISH 20801249**

#### **Film Writing**

**3 Credits/Units**

Film Writing is an intermediate-level creative writing course for the aspiring writer who wants to learn the craft of scriptwriting for feature film and/or television. Because of its emphasis on narrative structure and visual storytelling, Film Writing is also an excellent training ground for fiction writers, poets, technical and business writers, and writers working in social media. Typical outcomes of the course include a better understanding of how to tell a story, improved dialog skills, and enhanced ability to "show" rather than "tell." Class sessions involve lecture, film viewing, and writing workshops.

### **ENGLISH 20801250**

#### **Women In Literature**

**3 Credits/Units**

Women in Literature examines women as both subjects and writers of literature. Students read works from a number of genres and eras, studying ways female writers have contributed to, challenged and enlarged the literary tradition. Introduces readers to literary works by and about women and teaches analytical skills, especially feminist literary criticisms. The works are selected to represent varied perspectives in race, class and sexual preference.

### **EVTMGT 10109102**

#### **Fundamentals Of Meeting Mgmt**

**3 Credits/Units**

Students explore the core issues of meeting planning from the fundamentals to the new trends shaping the meetings industry. Development of meeting timelines, checklists and request for proposal are introduced. Further focus includes the process meeting planners must use in site selections, the value of meeting objectives and format, and attendee expectations.

### **EVTMGT 10109104**

#### **Meeting Design**

**3 Credits/Units**

Designing meeting experiences that engage participants and deliver return on investment is critical for meeting professionals. Students explore adult learning styles and theories as well as develop tools and techniques to ensure the meetings success and a positive return on investment is delivered. This course takes an in-depth look at identifying the stakeholder objectives and learner outcomes, designing effective meetings and events, and measuring return on investment.

### **EVTMGT 10109108**

#### **Mtgs Industry Budget/Finance**

**2 Credits/Units**

Establishing a realistic and sound budget is vital to creation of successful meetings. This course examines the steps in developing a meeting budget. Students learn techniques for projecting and managing budgets including per person methodology and break-even analysis. Emphasis is placed on situations oriented to the meeting industry.

### **EVTMGT 10109109**

#### **Special Event Management**

**3 Credits/Units**

Demonstrates professional practices used to create, market, plan and implement special events. Emphasis is on applying creativity to develop events with unique purposes and presentations combining elements such as site selection, décor, lighting, sound, and entertainment as well as food and beverage to reflect the theme of the event.

### **EVTMGT 10109110**

#### **Meeting Coordination**

**3 Credits/Units**

Provides a solid understanding of the numerous tasks and details involved in developing and coordinating a meeting and/or event. Students explore meeting room design, commonly used audio-visual equipment, the use of speakers, and how effective management of food and beverage impact successful meeting and event planning.

### **EVTMGT 10109111**

#### **Registration/Housing Logistics**

**2 Credits/Units**

Registration is the first impression that attendees have of your meeting. Careful planning in designing a registration process is critical to setting attendees expectations, perceptions and the tone of the meeting. Meeting participants want and need comfortable and convenient accommodations, to their exact requirements. Creating rooming lists, coordinating the housing logistics, and managing sleeping room blocks to reduce or eliminate attrition are critical success factors for the planner and the meeting. This course enables students to identify and develop tools that allow attendees a seamless meeting experience.

### **EVTMGT 10109112**

#### **Exhibition Management**

**3 Credits/Units**

Provides the student with an understanding of the growing role of exhibitions and trade shows as a source of revenue for the organizer as well as an opportunity for buyers and sellers to interact face-to-face in an educational environment. Building an exhibition from the start of the planning process through the close of the show is presented. Students examine key elements in designing a show floor; careers within exhibition management, factors needed to take into account when selecting a site for an exhibition, identify contractors necessary for producing the show; and learn how to effectively interact and communicate with exhibitors throughout the process. As part of this course, a job-ready assessment will be given.

### **EVTMGT 10109113**

#### **Risk Management, Negotiations, and Legal Issues**

**3 Credits/Units**



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Includes crisis planning and risk management, the art and science of negotiations, and contract and legal issues in the meetings industry. Students learn how to identify issues that are negotiable, the steps in the negotiation process and commonly used negotiation techniques. The class also focuses on basic contract provisions and key clauses of a facility contract as well as the unique elements and differences of hotel and convention center contracts. Includes discussion of legal principles and precedents as they apply to the meetings industry.

**EVTMGT 10109114 Meeting/Event Mgmt Internship 2 Credits/Units**

Course provides both theoretical and hands-on experience planning, setting up and managing a meeting or event. Emphasis is on developing and implementing proper procedures to ensure professional results. The student is required to use their knowledge of finance, decision making, problem solving, organization and communication. Prerequisite: Third semester program student or consent of instructor.

**EVTMGT 10109116 Fundamentals of Green Meetings and Events 2 Credits/Units**

This course provides students with a solid foundation of what is a green meeting, commonly used terminology, and how to execute a socially responsible and environmentally responsible meeting or event. Through a green lens, students will explore core strategies and principles in planning a green meeting. Further focus includes green tools and resources available to plan a green meeting.

**EVTMGT 10109117 Partnership Development 3 Credits/Units**

Students learn how to analyze a meeting to identify sponsorship and fundraising opportunities. These partnerships build support for a meeting, increase marketing effectiveness, and increase meeting profitability.

**EVTMGT 10109119 Event Professional Best Practices 3 Credits/Units**

This course focuses on the core knowledge and skills that are crucial in the meetings and events industry. We will examine the factors involved with job success, including professional etiquette, ethics, communication and listening skills. Learn the foundation of customer service by implementing industry standards and expectations. Students will create a professional portfolio, as well as learn about proactive job search techniques, professional networking and interview skills.

**FILM 20810250 Introduction to Film 3 Credits/Units**

Examines techniques of film production and explores the relationship between film form and film meaning. Students view films that represent significant movements in the evolution of the medium and learn how to research and write analytical essays about these films.

**FILM 20810254 History Of World Cinema 3 Credits/Units**

History of World Cinema examines the history of the film medium, primarily as an art form but also as a form of communication, in the United States and internationally from its origin in the 1800s to the present, highlighting significant movements in its development. Students view domestic and foreign films as a basis for study.

**FINANCE 10114126 Corporate Finance 3 Credits/Units**

This intermediate-level course views finance from the perspective of the financial manager. Topics include techniques of financial analysis, forecasting and budgeting, operating and financial leverage, working capital management, the time value of money, cost of capital, long-term debt and stock financing, dividends and retained earnings. Students are expected to apply both principles of accounting and finance.

**FINANCE 10114127 Financial Analysis 3 Credits/Units**

A capstone course for the Finance program. Students work in teams to analyze an industry and work individually to analyze a specific company. The project familiarizes students with common sources of business and financial information and develops their analytical skills. A final oral and written report is required.

**FINANCE 10114128 Financial Institutions 3 Credits/Units**

Introductory-level course which considers the role of financial institutions in the economy. Topics include financial intermediation, the Federal Reserve System, financial markets and instruments, and non-bank financial institutions, including savings and loan associations, credit unions, finance companies, insurance companies, pension funds, mutual funds and governmental financial institutions.

**FINANCE 10114130 Personal Finance 3 Credits/Units**

This introductory course considers finance from the point of view of the individual or family unit. Topics include budgets, insurance, housing, borrowing, saving, investing and estate planning. Students complete personal finance projects applying the material learned.

**FINANCE 10114140 Investments 3 Credits/Units**

This advanced course considers alternative investment media and markets. Topics include the investment environment, fundamental and technical analysis, timing, selectivity and diversification, and computer-based investment management. Investment analysis will make use of a student-developed spreadsheet platform.

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<b>FIRET 10503100</b>	<b>Fire Recruit Academy</b>	<b>5 Credits/Units</b>
200 hours of fire fighting training prepares students for the State of Wisconsin Firefighter 1 and Firefighter 2 certification examinations. Completion of the EMT Basic Course also will provide the student with a diploma in Fire Service Certification.		
<b>FIRET 10503141</b>	<b>Firefighter 2/Hazardous Materials Operations</b>	<b>1 Credits/Units</b>
This course meets the NFPA requirements for firefighters. Provides the first responders with the awareness and knowledge to identify hazardous materials and to safely respond to hazardous materials (hazmat) emergencies.		
<b>FIRET 10503142</b>	<b>Fire Fighting Principles</b>	<b>4 Credits/Units</b>
Describes basic fire behavior, and techniques used to control structural and related fire emergencies, and life safety practices. Students perform all practical evolutions necessary to control and extinguish fires and otherwise meet all requirements for Firefighter 1 certification with the State of Wisconsin.		
<b>FIRET 10503143</b>	<b>Building Construction</b>	<b>3 Credits/Units</b>
Covers the basic principles of construction and specific classifications of construction as they relate to fire prevention, fire resistance, fire and smoke containment, and performance under fire conditions. Specific building styles, including high-rise and multi-family dwelling units, are also studied. and multi-family dwelling units, are also studied.		
<b>FIRET 10503144</b>	<b>OSHA for the Fire Service</b>	<b>3 Credits/Units</b>
This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk and hazard evaluation and control procedures for emergency service organizations.		
<b>FIRET 10503148</b>	<b>Principles of Fire &amp; Emergency Service Administration</b>	<b>4 Credits/Units</b>
This course introduces the student to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis on fire service leadership from the perspective of the company officer.		
<b>FIRET 10503151</b>	<b>Fire Prevention</b>	<b>4 Credits/Units</b>
Provides functional information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, and identification and correction of fire hazards. Meets all requirements for Fire Inspector 1 certification with the State of Wisconsin.		
<b>FIRET 10503154</b>	<b>Hazardous Materials Chemistry</b>	<b>2 Credits/Units</b>
This course provides basic chemistry relating to the categories of hazardous materials including recognition, identification, reactivity, and health hazards encountered by emergency services.		
<b>FIRET 10503156</b>	<b>Strategies, Tactics &amp; Inc Mgmt</b>	<b>4 Credits/Units</b>
Provides an in-depth analysis of the principles of emergency response through utilization of an incident management system. Prepares students to pursue current national ICS training requirements.		
<b>FIRET 10503157</b>	<b>Fire Investigation</b>	<b>3 Credits/Units</b>
Provides learners with the fundamentals and technical knowledge needed for proper fire scene investigation. Prerequisites: all first, second, and third semester courses.		
<b>FIRET 10503191</b>	<b>Principles of Emergency Services</b>	<b>2 Credits/Units</b>
This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; life safety initiatives.		
<b>FIRET 10503192</b>	<b>Principles Emergency Services/Survival</b>	<b>3 Credits/Units</b>
This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services. Prerequisite: all first, second, and third semester courses.		
<b>FIRET 10503193</b>	<b>Fire Protection Systems</b>	<b>3 Credits/Units</b>
Provides information relating to the features of design and operation of fire detection and suppression systems.		
<b>FIRET 10503194</b>	<b>Fire Protection Hydraulics</b>	<b>3 Credits/Units</b>
This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems.		
<b>FIRET 10503195</b>	<b>Fire Behavior &amp; Combustion</b>	<b>3 Credits/Units</b>
This course explores the theories and fundamentals of how and why fires start, spread and are controlled.		



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<b>FIT REC 10109103</b>	<b>Leisure, Quality of Life and Well-being</b>	<b>3 Credits/Units</b>
Encourages a holistic and comprehensive understanding of the significance of leisure to the individual and society. Emphasizes concepts, theories, and the interrelationships between factors (social, economic, political, and environmental), which influence people's leisure attitudes and behavior.		
<b>FIT REC 10109106</b>	<b>Fitness and Recreation Programming</b>	<b>3 Credits/Units</b>
This course provides practical knowledge and experiences on the essential elements and design concepts of program planning. Emphasis is placed on student involvement in planning and directing programs for diverse populations in a variety of physical settings.		
<b>FIT REC 10109115</b>	<b>Fitness and Recreation Administration &amp; Management</b>	<b>3 Credits/Units</b>
Prepares students for entry-level management positions in the field. The course is project oriented and will focus on the areas of agency management, evolution of management, human resources, managerial leadership, employee empowerment, ethics, legal issues, evaluation, PR, and facility scheduling. Students will develop an agency manual.?		
<b>FIT REC 10109135</b>	<b>Leadership Strategies in Fitness and Recreation</b>	<b>3 Credits/Units</b>
This course focuses on the development of foundational leadership knowledge and skills within the field. Students will learn and apply various leadership and communication styles, motivational theories, and group dynamics. Students will develop and practice skills for organizing and leading specific activities, including cooperative games and group initiatives.		
<b>FIT REC 10109149</b>	<b>Risk Management in Fitness and Recreation</b>	<b>2 Credits/Units</b>
This course identifies and addresses tort law, negligence, standard of care, and risk mitigation in recreation. It prepares students to manage legal risks associated with recreational experiences and venues. Case studies and mock trials will be used to help illustrate the content. Possible certifications include: Heartsaver First Aid, CPR and AED, WSI, and Lifeguarding.		
<b>FIT REC 10109155</b>	<b>Facility Operations and Maintenance</b>	<b>3 Credits/Units</b>
Principles for planning, assessing and evaluating resources, areas and facilities. Topics include scheduling, planning and design, assessing resources, routine and preventative maintenance, care of outdoor and natural areas, and impact on the environment.		
<b>FIT REC 10109159</b>	<b>Health Coaching and Wellness Promotion</b>	<b>3 Credits/Units</b>
This course is designed to give students the knowledge and understanding necessary to prepare for the ACE Health Coaching Certification Exam and become effective health coaches. This course is designed to give you both the knowledge and skills needed to assess a client's lifestyle behaviors and support them through behavior change.		
<b>FIT REC 10109160</b>	<b>Diversity, Equity, &amp; Inclusion in Fitness &amp; Recreation</b>	<b>3 Credits/Units</b>
This course serves as an introduction to inclusion and an understanding of needs and program adaptations relative to recreational pursuits. Topics covered include history, philosophy, purpose, programming, as well as characteristics and needs of individuals with disabilities.		
<b>FIT REC 10109162</b>	<b>Introduction to Fitness and Recreation</b>	<b>2 Credits/Units</b>
Introduces new students to the profession and its potential careers. Emphasis is placed on the career exploration and planning, informational interviewing, professional organizations and the development of the profession.		
<b>FIT REC 10109163</b>	<b>Trends &amp; Topics in Fitness and Recreation</b>	<b>3 Credits/Units</b>
This course content changes from semester to semester and is based on the hottest and most important recreation trends and topics. Students will explore cutting-edge theories and practices and have an opportunity to explore trends in which they have a particular interest. Course should be taken in the fourth or final semester of study in the program.		
<b>FIT REC 10109171</b>	<b>Internship Development and Community Partnerships</b>	<b>2 Credits/Units</b>
Focus on preparing students for the internship experience through the identification of career goals and objectives in order to select an internship site. Topics include placement requirements and policies, resumes, interviewing, letters of application, and the role and issues of professional practice.		
<b>FIT REC 10109173</b>	<b>Group Fitness Development</b>	<b>3 Credits/Units</b>
ACE PREP COURSE - This course is designed to give students the knowledge and understanding necessary to prepare for the exercise science portion of the ACE Certifications. We will cover human anatomy, exercise physiology, applied kinesiology, and nutrition. Students will begin to learn how to facilitate functional training assessments, programming, movement, core, balance, and flexibility.		
<b>FIT REC 10109175</b>	<b>Fitness and Recreation Internship Practicum</b>	<b>2 Credits/Units</b>
Students must complete a 144-hours of internship with an approved fitness/recreation agency. The on-site practitioner and internship coordinator supervise the student's progress. This is a fully online course and does not require on-campus meetings. Prior to taking this course, it is recommended that students complete ??two full semesters of program coursework and have an overall GPA of 2.0 or higher.??		

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<b>FIT REC 10109176</b>	<b>Personal Trainer Development</b>	<b>3 Credits/Units</b>
ACE PREP COURSE - Students will gain knowledge and understanding necessary to prepare for the ACE Personal Trainer Certification Exam and become effective personal trainers. This course is designed to help students learn how to facilitate rapport, adherence, self-efficacy, and behavior change in clients, as well as designing programs to improve the five components of fitness.?		
<b>FIT REC 10109189</b>	<b>Foundations of Worksite Wellness</b>	<b>3 Credits/Units</b>
Employers are showing increased commitment to developing wellness programs that help recruit and retain employees, enhance health and sense of well being, improve productivity and enrich quality of life. This course prepares you to help employers shape, implement and evaluate these programs through an understanding of the health promotion concept, management issues, theories of behavior change for motivation and skill building, core programming and emerging trends.		
<b>FIT REC 10109190</b>	<b>Fitness and Recreation Seminar</b>	<b>1 Credits/Units</b>
Designed to assist the graduating student with portfolio building and creation. This course reviews how to target job possibilities, resume building, job placements and includes practical interviewing. Prerequisite: The course should be taken in the final semester of the program.		
<b>FIT REC 10109195</b>	<b>Industry Budget and Financial Management</b>	<b>3 Credits/Units</b>
Financial methods and techniques utilized in the recreation industry. Emphasis on sources and methods of financing, forecasting cost and income, budgeting, pricing, grant seeking, sponsorship, fundraising and fiscal management.		
<b>FIT REC 10109196</b>	<b>Principles of Outdoor Pursuits</b>	<b>3 Credits/Units</b>
This course provides the fundamental knowledge, skills and experience necessary to lead people in outdoor recreational activities. The course includes topics on trip planning, safety procedures, equipment, leadership methods and expedition behavior for a variety of outdoor trip activities. Classroom as well as experiential involvement required.		
<b>FIT REC 10109197</b>	<b>Outdoor Experiential Facilitation</b>	<b>3 Credits/Units</b>
Learn basic facilitation and technical skills to lead outdoor experiential activities including expeditionary tripping and low/high challenge course programming. Topics include planning, logistics, menu prep, permits, equipment, facilitation skills and methods, and group development. Class includes at least one overnight trip and optional opportunity to receive ACCT Level 1 Certification.		
<b>FIT REC 10109297</b>	<b>Exercise Science for Fitness Professionals</b>	<b>3 Credits/Units</b>
This course is designed to give students the knowledge and understanding necessary to prepare for the exercise science portion of the ACE Certifications. We will cover human anatomy, exercise physiology, applied kinesiology, and nutrition. Students will begin to learn how to facilitate functional training assessments, programming, movement, core, balance, and flexibility.		
<b>FIT REC 10109298</b>	<b>Introduction to Fitness and Wellness</b>	<b>2 Credits/Units</b>
Students will explore the industry's history, current landscape and the scope of practice for Certified Group Fitness Instructors, Personal Trainers, and Health Coaches. Topics covered include: industry career paths, certifications, opportunities, and employment. We will investigate and implement social media presences, websites, and personal business materials.		
<b>FIT REC 10109299</b>	<b>Precision Nutrition</b>	<b>3 Credits/Units</b>
This course is designed for fitness and wellness professionals looking to further explore the relationship between fitness and nutrition. Students will learn the latest discoveries in nutrition science to help clients achieve lasting behavior change. Topics include: cellular biology, digestion, metabolism, macronutrients, micronutrients, and nutrition coaching.		
<b>FIT REC 10109300</b>	<b>Fitness and Wellness Professional Development</b>	<b>1 Credits/Units</b>
This course focuses on how to target job possibilities, resume and cover letter writing and includes practical interviewing. Self-evaluation and job-related skills, interests, attributes, and achievements are discussed. The concept of job networking is also stressed. Prerequisite: The course should be taken in the final semester of the program.		
<b>FIT REC 10109301</b>	<b>Fitness and Wellness Practical Lab</b>	<b>1 Credits/Units</b>
This is a capstone course in which students will work with assigned clients to expand their knowledge and skills in the industry. Students will be asked to develop, implement and evaluate individualized and/or group programming for the Madison College community to improve their overall health and well-being. Students will be supervised and evaluated on their practical skills by the instructor of this course.		
<b>FOUNHLTH 10501101</b>	<b>Medical Terminology</b>	<b>3 Credits/Units</b>
Focuses on the component parts of medical terms: prefixes, suffixes and word roots. Students practice formation, analysis and reconstruction of terms. Emphasis is on spelling, definition and pronunciation. Introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology, is included. Prerequisite: COMPASS scores of Reading 80 & Writing 46-99 or comparable equivalent course courses.		
<b>FOUNHLTH 10501107</b>	<b>Digital Literacy for Healthcare</b>	<b>2 Credits/Units</b>

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Provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasizes the use of common software packages, operating systems, file management, word processing, spreadsheets, databases, Internet, and electronic mail.

**FOUNHLTH 10501153**                      **Body Structure & Function - Used in a variety of Degree Programs**                      **3 Credits/Units**

A concise introduction to human body structure and function. Normal and abnormal states of the body and basic disease processes affecting the body are emphasized. Common problems encountered in a variety of health care settings are presented.

**FOUNHLTH 31501308**                      **Pharmacology for Allied Health**                      **2 Credits/Units**  
Introduces students to medications and basic pharmacology principles. Students apply basic pharmacodynamics to identify common medications and calculate dosages in preparation for medication administration.

**FRENCH 20802221**                      **French 1**                      **4 Credits/Units**  
This course is for students beginning the study of French or those who need to review the basics before going on to French 2. Students will learn to participate in uncomplicated conversations on everyday topics and gain a better understanding of and appreciation for people and cultures other than their own.

**FRENCH 20802222**                      **French 2**                      **4 Credits/Units**  
This course is for students who have completed 1 year of high school French OR 1 semester of college French. Students will learn to understand more complicated conversations and readings and respond with longer, more complex sentences and even paragraphs. Emphasis will be placed on gaining a better understanding of and appreciation for other cultures.

**FRENCH 20802223**                      **French 3**                      **4 Credits/Units**  
This course is for students who have completed 2 years of high school French OR 2 semesters of college French. Students will learn to speak and write at an intermediate level, with an ability to discuss topics that require higher level thinking and more complex structures. Emphasis will be placed on gaining a better understanding of and appreciation for other cultures.

**FRENCH 20802224**                      **French 4**                      **4 Credits/Units**  
This course is for students who have completed 3 years of high school French OR 3 semesters of college French. Students will expand their ability to speak and write at an intermediate level, increasing both the quality and quantity of language produced. Emphasis will be placed on gaining a deeper understanding of and appreciation for other cultures.

**FRENCH 20802226**                      **French 5**                      **3 Credits/Units**  
This course is for students who have completed 4 years of high school French OR 4 semesters of college French. Students will study advanced grammar with the objective of improving their ability to speak and write accurately in French. Readings of cultural, historical and literary significance will be used to advance students' proficiency.

**FSHNMKTG 10104118**                      **Store Operations**                      **3 Credits/Units**  
Students in this course are responsible for planning and analysis in all aspects of store operations with special emphasis on selling, merchandising, pricing, loss prevention and visual presentation is stressed. Students participate in at least one trade show during the semester to help select merchandise for the bookstore apparel and assist in hands on work in the bookstore. Fall only. Recommended prerequisites: Retail Management, 10104124.

**FSHNMKTG 10104120**                      **Adobe Photoshop Fashion Design**                      **3 Credits/Units**  
This course focuses on the key tools and processes using Adobe Photoshop and other computer software programs that are part of the design and marketing processes in the fashion industry. Students will be creating projects in major categories of fashion.

**FSHNMKTG 10104122**                      **Adobe Illustrator for Fashion**                      **3 Credits/Units**  
This course focuses on the key tools and processes using Adobe Illustrator and other computer software programs that are part of the design and marketing processes in the fashion industry. Students will be creating projects in major categories of fashion.

**FSHNMKTG 10104123**                      **Merchandise Plan/Control**                      **3 Credits/Units**  
Students analyze the buying and merchandising functions in various types of organizations. The principles, procedures and techniques practiced by merchandisers are studied. Students may have the opportunity to interview a buyer, visit a market, participate in a floor move in a local business, compile a resource folder of relevant tools for buyers, and/or complete a computer simulation. It is recommended that students have completed the math requirement, excel, and enrolled in the Retail Management course.

**FSHNMKTG 10104124**                      **Retail Management**                      **3 Credits/Units**  
Upon successful completion of this course, the student should be able to describe and analyze retail store organization and operation including customer markets, store location and design, human resource management, merchandise planning and control, and retail promotion.

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<b>FSHNMKTG 10104127</b>	<b>Technical Design Specifications for Fashion</b>	<b>3 Credits/Units</b>
Students will create garment sketches using Adobe software with product specifications and fit comments to apparel for a target market. Students will present a technical specifications packet of apparel based on research for a target audience as it is applied to the sketches.		
<b>FSHNMKTG 10104132</b>	<b>Fashion Show</b>	<b>1 Credits/Units</b>
A step by step process for how to plan, organize, promote and execute an exciting fashion show. Aspects of fashion show production are covered including: planning, model selection, merchandise selection, staging and music, budgeting, show preparation, execution, and evaluation.		
<b>FSHNMKTG 10104157</b>	<b>Fashion Internship</b>	<b>2 Credits/Units</b>
Internship offers practical work experience to third and fourth semester students in the fashion area. Experiences that cannot be acquired in the classroom environment provide the student with the opportunity to blend theory with practice in an approved work setting, offered in the summer semester.		
<b>FSHNMKTG 10104182</b>	<b>Portfolio Presentation</b>	<b>3 Credits/Units</b>
This course includes an overview of methods to searching for a position in the fashion marketing field. We explore on and off line methods of personal and academic assessment. Mock interviews, including a viewing of your portfolio work, will be video taped. Resume writing and personal correspondence are included in a personalized approach.		
<b>FSHNMKTG 10104183</b>	<b>International Business in Fashion</b>	<b>2 Credits/Units</b>
This course provides the student with the opportunity to interface with various aspects of the Fashion Business on an international level. Students gain exposure as to how marketing, design, and merchandising are approached abroad. An international trip is scheduled for approximately ten days to Italy in the Spring Semester every other academic year.		
<b>FSHNMKTG 10104186</b>	<b>History of Costume</b>	<b>3 Credits/Units</b>
This course is an integration of how social, political, and economic factors relate to fashion trends from the past to the present. Students focus on key elements to help understand consumer behavior.		
<b>FSHNMKTG 10104194</b>	<b>Visual Merchandising</b>	<b>3 Credits/Units</b>
The principles and elements of design are incorporated into a hands-on approach to interior and exterior merchandise presentation. Coordination of the total sales promotion effort is emphasized. Students are required to build many types of displays. Recommended prerequisites: Apparel Marketing, 10104197 and Fashion Analysis, 10104195.		
<b>FSHNMKTG 10104195</b>	<b>Fashion Analysis</b>	<b>2 Credits/Units</b>
Students work with the elements and principles of design as they relate to fashion promotion and products. Forecasting, creativity and a grasp of the influences and sources of design are major components of the course. Computer-aided design is used to enhance the course. Highly recommend concurrent enrollment with either Fashion CAD Lab, 10104198, or Adobe Illustrator for Fashion Design, 10104122.		
<b>FSHNMKTG 10104196</b>	<b>Textiles</b>	<b>2 Credits/Units</b>
Focuses on the technical information regarding fabrics and fibers required by apparel managers and merchandisers, and its application to merchandise buying and sales staff training. Highly Recommended pre-requisites Fashion Analysis 10104195, Adobe Illustrator for Fashion Design 10104122 and Apparel Marketing 10104197.?		
<b>FSHNMKTG 10104197</b>	<b>Apparel Marketing</b>	<b>3 Credits/Units</b>
Students study the types of business enterprises, activities, operations, interrelationships and practices in the fashion industry. Careers in each of these areas are explored. This is a survey course with emphasis on terminology and key sources of information in the industry.		
<b>FSHNMKTG 10104198</b>	<b>Fashion CAD Lab</b>	<b>1 Credits/Units</b>
This class focuses on fashion components using Adobe Illustrator. Students research and create projects related to the fashion industry.		
<b>GENENG 10605252</b>	<b>Introduction to Computer Engineering</b>	<b>3 Credits/Units</b>
Presents logic components built with transistors, Boolean algebra, basic combinational logic design, basic synchronous sequential logic design, basic computer organization and design, and introductory machine-and assembly-language programming and its implementation on a Field Programmable Gate Array. The course introduces students to a team based project in assembly programming providing the experience of a real life computer engineering design project. (Designed to be a transfer course to the UW-Madison Electrical Engineering Program as ECE 252.).		
<b>GENENG 10605270</b>	<b>AC/DC Circuit Techniques and Principles</b>	<b>3 Credits/Units</b>

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Provides students with hands-on experiences with instruments such as oscilloscopes, digital multimeters, signal generators and other measuring equipment. Covers circuit analysis for series and parallel circuits, Ohms Law, Kirchoff's current and voltage laws, linearity, superposition, Thevenin's theorem, Circuit analysis using Nodal and Mesh Analysis and concepts of AC signals, RC, LC and RLC circuits, filters, resonance. Concepts are reinforced with hands-on experiments coupled with mathematical analysis.

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|---|--|------------------------|
| <b>GENENG 10606231</b>  | <b>Introductory Engineering Graphics</b>             | <b>3 Credits/Units</b> |
| A freshman course which provides the undergraduate engineering student with a background in descriptive geometry, orthographic projection, engineering drawing techniques, and computer-aided engineering graphics. Topics covered include point-line and plane relationships in projection; multi-view engineering drawings; auxiliary and section views; mechanical fasteners; engineering drawing applications. (Designed for engineering transfer students as the equivalent of ME 231 at UW-Madison.)  |  |                        |
| <b>GENENG 10606232</b>  | <b>Reverse Engineering and Solidworks Assemblies</b> | <b>1 Credits/Units</b> |
| Introduces the student to assembly modeling using SolidWorks, utilizing both bottom-up and top-down assembly modeling techniques. A complete set of working drawings will be created, through individual part drawing and assembly drawing techniques. Model creation will also take place by measurement of an existing part/assembly, allowing the student to practice the reverse engineering process to create model and drawing details. This course serves as a bolt-on to 20-606-231 Introductory Engineering Graphics; two courses taken together are equivalent to GE 2030 at UW-Platteville.  |  |                        |
| <b>GENENG 10662121</b>  | <b>Circuit Modeling 1</b>                            | <b>3 Credits/Units</b> |
| This course explores electrical engineering concepts including voltage, current, resistance, impedance, Opamps, phasors, Ohms law, Kirchhoffs laws, superposition, Thevenins and Nortons theorems applied to the modeling of zero-order networks, Complex numbers and algebra.  |  |                        |
| <b>GENENG 10662221</b>  | <b>Circuit Modeling 2</b>                            | <b>4 Credits/Units</b> |
| This course explores electrical engineering concepts including phasors and sinusoidal steady-state analysis and power. Resonant circuits. Mutual inductance. Transient response of linear networks with Laplace transform.  |  |                        |
| <b>GENENG 10662252</b>  | <b>Introduction to Computer Engineering</b>          | <b>3 Credits/Units</b> |
| Presents logic components built with transistors, Boolean algebra, basic combinational logic design, basic synchronous sequential logic design, basic computer organization and design, and introductory machine-and assembly-language programming and its implementation on a Field Programmable Gate Array. The course introduces students to a team based project in assembly programming providing the experience of a real life computer engineering design project. (Designed to be a transfer course to the UW-Madison Electrical Engineering Program as ECE 252.)   |  |                        |
| <b>GENENG 20806232</b>  | <b>Statics</b>                                       | <b>3 Credits/Units</b> |
| Statics is the study of particle and rigid body equilibrium. The course will give students the tools required to calculate forces transmitted to different parts of a structure, given a set of loads acting on it. Vector mathematics is developed and used to analyze complex physical systems. Distributed loads are analyzed with the theory of centroids and moments of inertia.   |  |                        |
| <b>GENENG 20806233</b>  | <b>Dynamics</b>                                      | <b>3 Credits/Units</b> |
| Dynamics introduces students to the motion of bodies subjected to forces. The course will give students the tools required to analyze the kinematics of systems of particles and rigid bodies. Students will determine the dynamic response of a system to applied loadings using Newton's Laws, the Principle of Work and Energy, and the Principle of Impulse and Momentum.   |  |                        |
| <b>GENENG 20806234</b>  | <b>Mechanics of Materials</b>                        | <b>4 Credits/Units</b> |
| Mechanics of Materials introduces students to simple stress and strain; design and investigation of joints, beams, torsion members and columns; evaluation of shear, moment, slope and deflection of beams and combined stresses.   |  |                        |
| <b>GENENG 20806294</b>  | <b>Engineering Seminar</b>                           | <b>1 Credits/Units</b> |
| The course offers students interested in engineering careers an orientation experience. Assignments and activities will be focused on academic and career planning and exploration. Students will become familiar with different engineering programs and career paths at Madison College and 4-year institutions.  |  |                        |
| <b>GENENG 20806295</b>  | <b>Introduction to Engineering</b>                   | <b>3 Credits/Units</b> |
| This course provides students with an overview of engineering based on a "hands-on" experience with a client-centered engineering design project, which includes: 1) a team-based design project, 2) a survey of engineering disciplines, 3) an introduction to computer tools and lab techniques, and 4) management of a project budget. Instruction will include an introduction to technical fabrication skills required to produce a prototype design product. This course is intended for students intending to transfer to four-year engineering degree programs. Prerequisite: Students must have previously completed a minimum of 12 credits of college transfer course work, including 20-804-231 Calculus and Analytic Geometry, with a cumulative GPA of 2.5 or more. |  |                        |
| <b>GLBL ED 10140107</b>   | <b>Perspectives on Study Abroad</b>                  | <b>1 Credits/Units</b> |



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This course introduces students to the art of letterpress printing. Projects provide a foundation in designing for letterpress, including typography, composition, image creation/selection, color separation, and ink and paper selection. Through a series of projects, students will be introduced to professional practices in a letterpress shop, terminology, prepress, registration, and locking up. Prints will be generated on a variety of presses, including a Vandercook cylinder proof press, a Chandler & Price platen job press, and an automated Heidelberg windmill platen press. Artwork will be created with metal and wood handset type, linoleum/other relief blocks, and photopolymer plates created using Adobe Illustrator software.

**GRDSGN 10201145** **Introduction to Screen Printing** **2 Credits/Units**  
Investigation into the tools, techniques and technologies of serigraphy, also known as screen printing. Students learn the safety issues surrounding this printing format. Students investigate a variety of stencil methods and produce at least one project in each of four methods. Students are also introduced to the use of the variety of inks, fabrics and papers used for differing end products, as well as the use of solvents for diluting inks and cleaning up. Projects include the development of a retail product produced through screen printing that may be offered for sale in Madison College enterprise centers. Laboratory hours are allotted to provide flexible accumulation of credit hours. Budgets and production schedules are applied to projects.

**GRDSGN 10201146** **Advanced Screen Printing Workshop** **2 Credits/Units**  
This course is focused on advancing the skills of learners who have completed the Introduction to Screen Printing course and/or work experience. Emphasis will be put on concept, planning, and high-quality production of a variety of print projects. Projects will focus on further investigation into the use of specific inks, multiple layers of ink, screen mesh and stencil issues, various substrates and archival considerations. At least one multiple color fabric (or T-shirt) project will be addressed employing Plastisol inks and heat set equipment.

**GRDSGN 10201147** **Advanced Letterpress Workshop** **2 Credits/Units**  
This course will enable students who have completed the Principles of Letterpress course (or comparable coursework/experience) to continue to grow their knowledge and experience in letterpress printing. Projects will be both collaborative and self-directed. Students will become more familiar with press maintenance, set-up and the workings of a print shop. Amalgamation of printing processes (letterpress, screen printing, offset printing) will be introduced. Students

will gain entrepreneurial experience through creation of products

for sale in the college bookstore.

**GRDSGN 10201148** **Letterpress Independent Study** **1 Credits/Units**  
This one-credit course enables advanced letterpress students to complete one or two independent projects (depending on size, scope, and time) with instructor guidance. Students will have access to cylinder and platen presses, wood and metal type, paper, ink and photopolymer plates.

**GRDSGN 10201151** **Typographic Design** **3 Credits/Units**  
This class is an investigation of all things type related. Students will develop an eye for type and understand how to use it effectively in their design work. Topics include the principles of good typography, type terminology and history, font selection and pairing, letter, word and line spacing, typographic hierarchy, paragraphs and layout, character and paragraph styles, using a grid, trends in typography and the importance of type as the foundation of graphic design. Class projects cover a range of applications in print and digital media.

**GRDSGN 10201152** **Applied Drawing** **2 Credits/Units**  
A variety of traditional and digital tools, techniques, styles and media are used to enhance the drawing skills of visual artists and designers. Levels of drawing from loose sketches to tightly finished art are explored, but the emphasis is placed on simplified, gestural and stylized drawing important to concept, composition, presentation and communication. Projects will be predominantly black and white, although some tone and limited color may be incorporated.

**GRDSGN 10201153** **Integrated Design** **2 Credits/Units**  
In this course, students simulate the experience of helping a client launch a new business. Students produce a cohesive set of projects including logo and identity, brand standards guide, web presence, motion graphics, and unique print collateral materials appropriate to support this new venture. Smaller independent projects provide additional opportunities to include multi-piece collections for their portfolio. This is an advanced-level course. The level of work produced is expected to be portfolio quality. Technical proficiency with computer software is assumed. The ability to work independently and self-directed is a must.

**GRDSGN 10201154** **Design Project Management** **3 Credits/Units**  
This class covers general business practices, work-flow and advance production techniques in the design field through applied projects. Collaboration is emphasized where teams apply business practice in developing a product from concept to actual launch. Students will work through the process of producing a photo shoot and prepare files for a variety of media channels. This is an advanced level course with an emphasis on portfolio level work and professionalism.

**GRDSGN 10201156** **Programming for Designers** **3 Credits/Units**

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Students will continue to master HTML and CSS, with an introduction to Javascript and other programming languages. Creative, hands-on projects will be designed and programmed for a front-end, user interface context.?

**GRDSGN 10201157**                                  **Social Media Concepting**                                  **3 Credits/Units**  
Create campaignable content for platforms such as Facebook, Instagram, Snapchat and others. The focus will be idea based and will include writing, image making (illustration and photography), and video. Daily content, social media contests and ways to encourage user generated content will be covered.

**GRDSGN 10201158**                                  **Interactive Design Lab**                                  **2 Credits/Units**  
This course introduces students to working in a contemporary digital workflow and provides a studio-like experience. Students will focus on concept, user experience, and most importantly, design execution. They will use the skills they have acquired and work to develop real-world design solutions for a variety of digital mediums.

**GRDSGN 10201162**                                  **Portfolio Preparation**                                  **2 Credits/Units**  
Students prepare a portfolio of their work and various business materials to apply for employment. Students are supervised and assisted in choice and number of samples, and portfolio layout. Lectures are given on job interviewing and job markets. Faculty approval of a finished portfolio is required for graduation.

**GRDSGN 10201163**                                  **UX Design**                                  **3 Credits/Units**  
User Experience (UX) Design is all about people—designing interfaces that people will use. Thinking about how they interact with interfaces. Students will learn how to apply user-centered design principles to improve websites, forms, mobile apps, etc. We will delve into user research, wireframing & prototyping, and user testing while using the latest software & tools.

**GRDSGN 10201164**                                  **Advanced Portfolio**                                  **1 Credits/Units**  
This course is an elective for those students who have completed Portfolio Prep (10-201-162) in order to enhance their portfolio with instructor feedback and self-initiated projects. Students will participate in the employer focused Portfolio Show and promote their work on the college portfolio website.

**GRDSGN 10201165**                                  **Design Studio**                                  **2 Credits/Units**  
Students will gain practical experience and valuable skills working with real clients. Under the leadership of an instructor working as a creative director, the course allows students to work within an agency environment. Projects could range from quick-turnaround pieces to multi-channel campaigns.

**GRDSGN 10201169**                                  **Business of Graphic Design & Illustration**                                  **2 Credits/Units**  
This course introduces students to the business aspects of entrepreneurial and freelance design and illustration. Topics include setting up a business, creating a brand identity, finding your niche, targeting markets, developing a creative process, networking, portfolios, capability kits, writing business and marketing plans, tax and legal considerations, contracts, business forms, bookkeeping, pricing, referrals and writing estimates, proposals and invoices.

**GRDSGN 10201177**                                  **Web Page Design**                                  **3 Credits/Units**  
Learn basic web coding skills using HTML5, CSS, and incorporating Javascript. Design, page layout, web typography, and graphic preparation will introduce user interface (UI) skills. Students will also learn about uploading files, server space, testing, usability, accessibility, and browser compatibility.

**GRDSGN 10201178**                                  **Applied UI Design**                                  **3 Credits/Units**  
This course will utilize current methods for creating intentional user interaction and animation. Primary focus will be with HTML5, CSS, and JavaScript, as well as prototyping software to produce animated effects and interaction appropriate for screen, tablet and mobile.

**GRDSGN 10201181**                                  **Introduction to Computer Graphics**                                  **3 Credits/Units**  
An introduction to professional software used in the preparation of digital files including photography, graphic design, layout, typography and illustration using Adobe Photoshop, InDesign, and Illustrator. This is a foundation course for web, print, new media and other communication graphics.

**GRDSGN 10201182**                                  **Applied Computer Graphics**                                  **3 Credits/Units**  
The students enhance their knowledge and skill in the use of design, illustration and page layout software (Adobe Creative Cloud) through the creation of a variety of design and illustration projects. Emphasis on original, strong images and type integration, as well as preparing files for print and screen.

**GRDSGN 10201183**                                  **Electronic Illustration**                                  **2 Credits/Units**  
Focuses on illustration creation and preparation for both print and interactive media. Drawing upon the student's understanding of rendering in vector (such as Adobe Illustrator) and raster (such as Adobe Photoshop) software applications, students create illustrations and graphics that demonstrate originality, creativity, conceptualization and technical skills. Students will be introduced to Flash 2D animation and its integration with the digital illustration process.



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### **GRDSGN 10201184**

#### **Advanced Design & Layout**

**2 Credits/Units**

This course focuses on concept and the creation of unique and unifying visual solutions to a wide variety of design applications. Students will learn how to create focal points and hierarchy across multiple-page publications, digital applications and other common branding elements. Projects are designed to give freedom to explore various styles and a range of ideas that mimic a typical agency setting.

### **GRDSGN 10201189**

#### **Web Design Project Management**

**3 Credits/Units**

Real client projects provide opportunities to work in teams, manage projects, organize and acquire content, develop site architecture, create a production plan, and practice strong communication skills. Creative, and client appropriate, web page design interfaces will also be a focus.. WordPress (or similar CMS) will be the primary platform for web site development.

### **GRDSGN 10201195**

#### **Advanced Web Page Design**

**3 Credits/Units**

This course will explore building web sites using Content Management Systems. It will introduce the basics of both WordPress.com (cloud hosted), and WordPress.org (self-hosted). Students will learn how to publish posts and pages, work with themes, employ widgets, create custom menus, activate plugins, and utilize page templates. Students will also build their own page designs from scratch. The course requires text editing software, ftp software, Adobe Create Cloud, and the current version of WordPress. Students are required to acquire server space to host their work.?

### **GRDSGN 10201198**

#### **Social Media/Web Design Strategies**

**3 Credits/Units**

This course will introduce essential strategies that make for successful websites and social media campaigns. Topics covered include: User Experience, User Research, Content Strategy, Information Architecture, Search Engine Optimization, Analytics, Accessibility, Social Media, and the Mobile Web. Students work on real world case studies to learn and practice skills that can be applied in any profession that works with social media or websites.

### **HISTORY 20803201**

#### **Twentieth-Century America**

**3 Credits/Units**

Twentieth-Century America surveys the political, social, economic, cultural history of the United States in the twentieth century. Students will explore the following themes: the impact of technology in twentieth century America, the politics of power and its effects on society, the challenges in the transition to and from the Superpower era, and the various responses of different cultures to the ideas and events of the century. Within each unit, students will build their historical thinking, reading, writing, speaking and listening skills.

### **HISTORY 20803204**

#### **Renaissance, Reformation, and Revolution**

**3 Credits/Units**

Renaissance, Reformation, and Revolution introduces the major political, economic, social and cultural trends, which characterize European society from the Renaissance through the French Revolution. The primary focus is an examination of the changes and conflicts that mark the transition from medieval society to Modern European society, and the impact that this transition has for individuals, groups, institutions, and the world view of Europeans in the early modern period.

### **HISTORY 20803205**

#### **Europe and Modern World**

**3 Credits/Units**

This is an introductory course in European history concentrating on the 19th- and 20th-century experiences of European societies through examination of major social, economic, political and intellectual development. One emphasis is on the changes that caused the transformation of Europe from a pre-industrial to a modern industrial society. A second emphasis focuses on a specific place and time period in order to understand how this process of transformation affected different European nations at different points in their history.

### **HISTORY 20803211**

#### **Am Hist 1607-1865**

**3 Credits/Units**

In this course the origin and growth of the United States is studied. It also surveys American political, economic and social development from the founding of the colonies through the Civil War.

### **HISTORY 20803212**

#### **Am Hist 1865-Pres.**

**3 Credits/Units**

American History 1865 to the Present is an introductory survey course covering political, social and cultural trends in the United States between the end of Civil War and the present. In addition to presenting what happened in the United States during this period, the course explores the diverse sources historians use to explain the past.

### **HISTORY 20803214**

#### **Native American History**

**3 Credits/Units**

Native American History is a survey course focusing on Native American cultures and histories from early times to the present. Particular attention is placed on the variety of lifestyles of native peoples, their early reactions to Euro-Americans, outstanding native leaders, assimilation efforts and relations with the U.S. government. Completion of 20-803-211, American History 1607-1865; or 20-803-212, American History 1865 to Present, is recommended.

### **HISTORY 20803216**

#### **Immigrants in U.S. History**

**3 Credits/Units**

This course studies American immigration history from 1830 to the present. It will examine the causes of immigration, investigate the social networks immigrants forged, analyze the interactions between immigrants and hosts, and study how immigrants have adapted to and changed the United States. Students will better understand continuity and change in American immigration.

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**HISTORY 20803220 History Of West Civilization 1 3 Credits/Units**

This course introduces students to the history of western culture using the materials from the humanities, including history, art, architecture, literature, drama, philosophy and religion, and music. Course examines the history of western societies from the earliest civilizations up to the Renaissance (approx. 3000 BC to 1500 AD). Class will discover and explore the cultural legacy created by past societies that we embrace as part of western culture and to evaluate the style or cultural essence of the different peoples who have made important contributions to that culture. Students explore historical materials that reflect the human response to physical and social experiences in order to discover what being human involves over time in different places and situations. We also explore the humanities materials to discover how humans have expressed their humanity.

**HISTORY 20803224 History of Sub Saharan Africa 3 Credits/Units**

History of Sub-Saharan Africa is an introduction to the civilizations of Africa from early man through the present that focuses on African society before western penetration, the basic nature of African institutions, the colonial experience of Africa and the development of Africa since independence in 1960.

**HISTORY 20803225 World In 20th Century 3 Credits/Units**

This course focuses on the emergence of a global society in the twentieth century through a chronological examination of the events and trends, which created a more closely connected world, resulting in a "global society" by the end of the century. The course approaches the history of this century through emphasis on themes of particular significance to the creation of global society. Themes include globalization, the growth of mass culture, technology, ideology/religion, and the varied responses of different cultures to the ideas and events of the century.

**HISTORY 20803226 East Asian Civilization 3 Credits/Units**

East Asian Civilization will explore the historical, cultural, social and philosophical roots of East Asia. East Asia or the Pacific Rim includes China (also Taiwan, Hong Kong and Macao), Japan, Korea and Mongolia. This area is expected to be the newest economic and political powerhouse and has led many scholars to already name the 21st century the "Pacific Century." The purpose of this course will be to introduce students to this vast, complex and strategic area by primarily using history and culture. It will stress major themes in East Asian civilization and these themes will connect to form a whole picture.

**HISTORY 20803229 Vietnam/American-1945-Present 3 Credits/Units**

This course will survey the intersection of Vietnamese and American history from 1945 to the present. It will examine the roots of our involvement in Southeast Asia after World War II through the defeat of the French in the 1950's. It will explore the principal causes and effects of the expanded war in the 1960's both in Vietnam and in the United States—upon Americans and upon Vietnamese. It will conclude with a section discussing the legacy of the war exploring continuing issues like U.S./Vietnamese relations, Southeast Asian refugees in the U.S. and the effect of the war on veterans.

**HISTORY 20803230 Public Man, Private Woman: Bronze Age to Glass Ceiling 3 Credits/Units**

Public Man, Private Woman: Bronze Age to Glass Ceiling introduces students to women's history, specifically the various roles played by and assigned to women in western societies and focusing on the question of how and why women's lives have changed during the past thirty centuries. Students will examine women's experiences and their images in the past by analyzing the lives of selected notable women as well as broad categories of women, e.g. prostitutes, peasant wives, noblewomen, feminists. The traditional historical periods covered include the Ancient (Greece and Rome), the Medieval (Europe) and the Modern (Europe and the U.S. since 1500).

**HISTORY 20803233 Gender and Women's History in Cultural Representations 3 Credits/Units**

Introduction to gender and women's history from pre-history to the 19th century from a humanities perspective. We will develop a critical analysis by studying cultural representations of women and men within the social and historical context of race, class, gender, sexuality. Our analysis will be shaped by an intersectional approach, which means that gender will always be examined in interaction with race, class, sexuality and dis/ability to reveal how identities and systems of power are shaped by multiple forces. We will study a range of cultural representations ranging from literary and visual arts, to mass media, to material, to political to explore how gendered representations produce social, political and personal implications.

**HISTORY 20803234 Gender and Women's Global History 3 Credits/Units**

Introduction to gender and women's history from the 19th century to the present with a global perspective. Students will be asked to think critically about the power relations that affect the lives of diverse women in the U.S.-diverse in terms of race, class, ability, sexuality and other markers of power-and will be asked to contemplate the positions of diverse women from around the world.

**HISTORY 20803240 Afro-American History 3 Credits/Units**

Broad introductory survey of significant experiences that have shaped U.S. race relations, beginning with the west coast of Africa during the Middle Ages and moving through the last 30 years of this century in the United States. Special attention is given to slavery, family, politics, education and civil rights.

**HISTORY 20803241 Introduction to Judaism 3 Credits/Units**

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The course will trace the development of Judaism from early antiquity through the present. Beginning with the origins of Rabbinic Judaism roughly 2000 years ago, the course will describe Judaism in the context of other Near Eastern religions of that era, and it will trace how Judaism has changed and remained consistent around the world.

<b>HISTORY 20803242</b>	<b>History Nazi Germany-1933-1945</b>	<b>3 Credits/Units</b>
This course chronicles the rise and fall of the Third Reich. To accomplish this, the course will analyze National Socialism's historical roots, investigate Nazism's links with World War 1, chart Nazi Party growth in the 1920s and 1930s, explore the creation of the Nazi state, assess Germany's role in World War II, examine the Holocaust, and consider Nazism's legacy.		
<b>HOSPT 10109101</b>	<b>Exploring Hospitality</b>	<b>3 Credits/Units</b>
Introduces new students to the broad spectrum of the leisure services industry. Typical career areas include food service, lodging, travel/tourism, and recreation. The course explores educational options and program career opportunities as well as historical and operational perspectives of the career areas mentioned.		
<b>HOSPT 10109125</b>	<b>Hospitality Leadership</b>	<b>3 Credits/Units</b>
Introduces theories, principles and practical application of management skills in the hospitality and tourism industry. Students analyze their current skills and develop a personal management philosophy appropriate to the service industry.		
<b>HOSPT 10109131</b>	<b>Rooms Division Operation</b>	<b>3 Credits/Units</b>
Investigates the organization, performance and evaluation of the rooms division of a lodging facility (front desk, reservations, housekeeping and telephone systems) as essential components of operational success and guest satisfaction.		
<b>HOSPT 10109134</b>	<b>Revenue Management</b>	<b>3 Credits/Units</b>
Distinguishing between tactical and strategic revenue management, this course will explore foundational aspects of revenue management and develop a strategic revenue management focus by exploring current challenges for revenue managers, big data and market intelligence, the role of social media on revenue management and new market segmentation approaches.		
<b>HOSPT 10109136</b>	<b>Hospitality Law</b>	<b>3 Credits/Units</b>
A preventive approach to the laws and liabilities, as well as responsibilities of owners/operators of hotels, restaurants and travel facilities. Reviews precedent-setting court decisions, legal fundamentals, negligence doctrines, civil rights issues and the relationship between providers and the guests/clients.		
<b>HOSPT 10109157</b>	<b>Hospitality Internship</b>	<b>2 Credits/Units</b>
Provides on-the-job field experience required for graduation from the program. Requirements include fifteen hours per week of work experience, a written report analyzing four major management responsibilities, and a professional oral presentation of the written report.		
<b>HRMGT 10116145</b>	<b>Introduction to Human Resources</b>	<b>3 Credits/Units</b>
Topics include: the nature of human management, strategic human resource planning, issues in human resources, planning, equal employment opportunity, analyzing and staffing jobs, training and developing human resources.		
<b>HRMGT 10116147</b>	<b>Wage, Salary &amp; Benefits Admin</b>	<b>3 Credits/Units</b>
Topics include: Basic systems and plans of compensating employees, incentives and executive compensation, principles and techniques in the administration of employee benefit programs.		
<b>HRMGT 10116148</b>	<b>Employee Relations</b>	<b>3 Credits/Units</b>
Topics include employee rights and discipline; union-management relations; collective bargaining and grievance management; and assessment systems.		
<b>HRMGT 10116149</b>	<b>Effective Staffing</b>	<b>3 Credits/Units</b>
This course provides a comprehensive approach to planning for staffing; employing a wide range of recruiting methods; and identifying optimal selection methods.		
<b>HRMGT 10116152</b>	<b>Organizational Training and Development</b>	<b>3 Credits/Units</b>
This course provides an overview of the Training and Development function in organizations. There will be many opportunities to design and practice methods for planning for training, needs analysis, management development, and organization development. Students will learn effective techniques for on-the-job training, developing job aids, and designing classroom instruction. Introductory information on topics such as embedded learning, e-learning, and simulations will also be included.		
<b>HRMGT 10116168</b>	<b>Employment Law</b>	<b>3 Credits/Units</b>
Topics include: unemployment compensation laws; workers' compensation laws; hiring and firing practices; sexual harassment in the workplace; the Americans with Disabilities Act; and labor law basics under the National Labor Relations Act. Course examines current "black letter law" together with case decisions. Content is appropriate for persons whose career plans involve employee management.		

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<b>HRMGT 10116169</b>	<b>Human Resources Capstone</b>	<b>1 Credits/Units</b>
This final course in the Human Resource Management program integrates and enhances knowledge and skills developed throughout the program. Topics include staffing, labor relations, compensation, training and development, and employment law.		
<b>HUMAN 20801254</b>	<b>Media and Democracy</b>	<b>3 Credits/Units</b>
This course examines the role of media and the free flow of information in a democracy. Music, news sources, and social media offer opportunities for citizens to engage and be informed at local and global levels. A variety of forces may compromise interactions between free flow of information and democracy. This course is discussion-based and includes project assignments.		
<b>HUMAN 20802261</b>	<b>Intercultural Experience Practicum 1</b>	<b>1 Credits/Units</b>
The Intercultural Experience Practicum focuses on language field-related practice experience. Here, students can practice, advance and apply their target language skills to their field of interest and to a professional or community settings that are linguistically diverse. This provides language skills as well as non-academic practical experience necessary to successfully satisfy the demands of the workforce and the global market.		
<b>HUMAN 20802262</b>	<b>Intercultural Experience Practicum 2</b>	<b>1 Credits/Units</b>
The Intercultural Experience Practicum focuses on language field-related practice experience. Here, students can practice, advance and apply their target language skills to their field of interest and to a professional or community settings that are linguistically diverse. This provides language skills as well as non-academic practical experience necessary to successfully satisfy the demands of the workforce and the global market.		
<b>HUMAN 20802280</b>	<b>Global Studies Capstone</b>	<b>2 Credits/Units</b>
This course provides the framework for a student to complete the required individual capstone project for the Interdisciplinary Global Studies Certificate under the guidance of an approved faculty member. Faculty and student create a learning contract, establishing outcomes that align with that of the certificate.		
<b>HUMAN 20802802</b>	<b>Honors-Interdisciplinary Global Studies (2cr)</b>	<b>2 Credits/Units</b>
Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at <a href="https://madisoncollege.edu/honors">https://madisoncollege.edu/honors</a> .		
<b>HUMAN 20802803</b>	<b>Honors-Global Studies Capstone (2cr)</b>	<b>2 Credits/Units</b>
Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at <a href="https://madisoncollege.edu/honors">https://madisoncollege.edu/honors</a> .		
This course provides the framework for a student to complete the required individual capstone project for the Interdisciplinary Global Studies Certificate under the guidance of an approved faculty member. Faculty and student create a learning contract, establishing outcomes that align with that of the certificate.		
<b>HUMAN 20802902</b>	<b>Honors-Interdisciplinary Global Studies (3cr)</b>	<b>3 Credits/Units</b>
Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at <a href="https://madisoncollege.edu/honors">https://madisoncollege.edu/honors</a> .		
<b>HUMAN 20802903</b>	<b>Honors-Global Studies Capstone (3cr)</b>	<b>3 Credits/Units</b>
Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at <a href="https://madisoncollege.edu/honors">https://madisoncollege.edu/honors</a> .		
This course provides the framework for a student to complete the required individual capstone project for the Interdisciplinary Global Studies Certificate under the guidance of an approved faculty member. Faculty and student create a learning contract, establishing outcomes that align with that of the certificate.		
<b>HUMSVC 10520105</b>	<b>Introduction to Human Services</b>	<b>3 Credits/Units</b>
Examines the scope, values and principles of the human service profession. Introduces the typical roles and duties of human service workers. Students assess their own motivations, attitudes and interests. In addition to the regular classroom hours, 45 hours of volunteer work in a community human services agency are required.		
<b>HUMSVC 10520106</b>	<b>Orientation to Human Services Populations</b>	<b>3 Credits/Units</b>
Introduces social problems that contribute to the dysfunction of individuals, groups, families and communities. Addresses problems, needs, conditions and events that bring people to human service organizations.		
<b>HUMSVC 10520116</b>	<b>Group Work Skills</b>	<b>3 Credits/Units</b>

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Students learn principles and techniques needed to lead informational and supportive groups based on the solution- focused model. Students practice group work skills during class.

**HUMSVC 10520117** **Interviewing** **3 Credits/Units**  
Students learn principles and techniques needed to conduct informational and supportive interviews. Students practice interviewing skills during class.

**HUMSVC 10520120** **Community Service Agencies** **3 Credits/Units**  
Focuses on characteristics and functions of human services organizations and the roles of human service workers in those organizations. Covers organizational skills of assessment, planning, budgeting, grant writing, evaluation and consulting.

**HUMSVC 10520130** **Social Change Skills** **3 Credits/Units**  
Introduces principles and strategies of planned change and the role of human services workers as community organizers. Covers how consumers affected by a social problem can clearly define an issue, set a goal and organize to bring about social change.

**HUMSVC 10520135** **Issues in Alcohol and Other Drug Abuse** **3 Credits/Units**  
Provides students with a basic understanding of the use and abuse of alcohol and other drugs. Emphasizes historical and social perspectives on drug use, trends of use and legal and social responses to illicit drug use. Additionally, this course provides an accurate description of the effects of psychoactive drugs, identifies methods of substance abuse treatment and introduces the student to local treatment services.

**HUMSVC 10520136** **Counseling Alcoholics and Other Drug Abusers** **3 Credits/Units**  
Trains students in basic listening and responding skills, familiarizes students with the 12 core functions performed by AODA counselors (screening, intake, orientation, assessment, treatment planning, counseling, case management, crisis intervention, client education, referral, reports, record keeping and consultation) and provides a structured learning environment in which students can develop skills in these core functions.

**HUMSVC 10520141** **Introduction to Community Mental Health** **3 Credits/Units**  
Introduces the major diagnostic categories of mental illness, with a focus on the psychiatric management of these mental illnesses. Examines the unique treatment needs of people who have a coexisting psychiatric-disorder and substance-abuse problem.

**HUMSVC 10520142** **Psychopharmacology** **3 Credits/Units**  
This course uses a bio-psycho-social framework to explore the use and misuse of psychoactive drugs. We will learn about the interactions between chemicals and neurons, the psychological and physiological effects on the individual, the impact the individual has on society and the role culture may have on substance misuse and treatment. In addition, we will explore topics relating to biology, pharmacology, neuroscience, chemistry and further our understanding on history, law, sociology and the political climate. The intent of this course is to instill a better understanding of why people use drugs, what effects drugs have on people, the intersections of the individual within the larger systems and various treatment approaches.

**HUMSVC 10520157** **Human Services Counseling Skills** **3 Credits/Units**  
Introduces basic concepts of ego counseling, Rogerian counseling, transactional analysis, rational-emotive therapy, reality therapy, narrative therapy and solution focused therapy. Covers how counseling theories identify and define problems, explain personality development and treat problem situations.

**HUMSVC 10520188** **Human Services Experience Conference 1** **3 Credits/Units**  
A small-group seminar designed as a companion/supportive course to the agency experience. Relates theory and principles of practice to agency field-study experience. Students learn to develop supportive relationships with clients and apply the values of confidentiality and client self-determination. They learn how their values and personal experiences affect their work with clients.

**HUMSVC 10520189** **Human Services Experience Conference 2** **3 Credits/Units**  
Students develop skills specific to their fieldwork placement and complete a major project to enhance their cultural competence.

**HUMSVC 10520190** **Human Services Agency Internship 1** **3 Credits/Units**  
Students develop skills as human services workers by working directly or indirectly with clients in community agencies 12 hours per week. An agency supervisor and a faculty member closely supervise students. The human services staff makes field placement assignments. Taken concurrently with: 10-520-188.

**HUMSVC 10520191** **Human Services Agency Internship 2** **3 Credits/Units**  
Students continue their on-the-job training in community agencies for 12 hours per week. By the end of the course, students have the skills of an entry-level human services worker. Taken concurrently with: 10-520-120 and 10-520-189.

**HVAC 10601304** **Industrial Fluid Distribution Systems** **2 Credits/Units**  
Covers installation and repair of fluidic systems. Includes fittings, thread cutting, pipe sweating, roll grooving, solder, brazing, plastic cementing, repair equipment and tools. Pumps, valves, water supply systems, and fire protection distribution systems are covered.

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<b>HVAC 10601330</b>	<b>Refrigeration Fundamentals</b>	<b>2 Credits/Units</b>
This course is an introduction to basic refrigeration systems. Topics include terminology, the refrigeration cycle, safety, refrigerants, lubricants, and environmental issues. Presents applications of HVAC components, refrigeration controls, condensers, heat exchangers, dampers, blowers, and compressors. Use common and high tech tools of HVAC industry to aid in preventive maintenance/repair. Use of virtual interactive troubleshooting programs to reinforce troubleshooting skills. Reinforce documentation of work procedures and complete refrigerant tracking reports. Cover in depth existing and newly developed refrigerants. The learner will operate, evacuate, charge and repair basic refrigeration units.		
<b>HVAC 10601332</b>	<b>Heating and Air Conditioning Advanced</b>	<b>3 Credits/Units</b>
Advanced environmental equipment installation, trouble shooting and maintenance course which puts theory into practice including commercial cooling application equipment such as chiller systems, heat pumps, heat recovery systems, geothermal, and air distribution systems. Discuss special work areas and considerations such as clean rooms and hospitals. Gain skills in using high tech diagnostic equipment such as inferred and laser alignment in order to trouble shoot or as a predictive maintenance process. Also covers indoor air quality guide lines and strategies.		
<b>HVAC 10601334</b>	<b>Commercial Refrigeration Systems</b>	<b>3 Credits/Units</b>
Students will learn how to operate troubleshoot and maintain refrigeration equipment used in commercial applications like ice machines, rack style parallel refrigeration equipment used in grocery store applications, walk in and reach in coolers and freezers, specialty equipment such as refrigerated trucking equipment.		
<b>HVAC 10601336</b>	<b>EPA 608 Training &amp; Certification</b>	<b>1 Credits/Units</b>
This course covers review of the preparatory material, and includes the testing itself. According to the EPA clean air act, section 608, in regards to CFCs, in order to purchase refrigerant or handle or repair any refrigeration system, you must take and pass the EPA certification exam. Students also complete R410 safety training.		
<b>HVAC 10601340</b>	<b>Forced Air Heating Systems</b>	<b>2 Credits/Units</b>
This course is an introduction to basic forced air heating systems. Topics include terminology, the forced air heating cycle, humidification, safety, fuels, maintenance, troubleshooting, and air distribution systems and applications. Hands on includes; assembly, disassembly, maintenance, and repair of Residential and commercial heating systems. Discuss and complete common documentation of work procedures.		
<b>HVAC 10601342</b>	<b>Hydronic and Steam Systems</b>	<b>3 Credits/Units</b>
Participants will design hot water steam systems, select circulating pumps and other accessories used for proper operation and balancing of hydronic systems. Operating, maintaining, and troubleshooting boilers efficiently and safely will be emphasized.		
<b>HVAC 10601361</b>	<b>Industry Competencies 1</b>	<b>1 Credits/Units</b>
Students will practice necessary customer service skills, such as communication, listening and conflict management, complete project work that will allow them a hands on means to put all they have learned into practice.		
<b>HVAC 10601362</b>	<b>Industry Competencies 2</b>	<b>2 Credits/Units</b>
Continuation from Industry Competencies 1 with the addition of project work. Students will practice necessary customer service skills, such as communication, listening and conflict management, complete project work that will allow them a hands on means to put all they have learned into practice.		
<b>HVAC 10601370</b>	<b>Building Automations 1</b>	<b>3 Credits/Units</b>
This course will assist the student in developing the skills required to analyze, modify and calibrate HVAC control systems. The fundamentals of control systems will be studied and applied to common control strategies most often found in commercial HVAC systems. Studies computer-based energy and building control systems in detail to include wireless technology. Students will perform control system install using industry accepted practices. Will set up inputs and outputs and perform a proper commissioning on all hardware.		
<b>HVAC 10601372</b>	<b>Building Automations 2</b>	<b>3 Credits/Units</b>
Students learn how to analyze and develop control strategies taking in account efficiency, security / safety, comfort as well as indoor air quality guide lines and strategies. Students will write sequence of operations for control strategies used in typical commercial applications. Students will learn how to program and commission control systems for several commonly used automation platforms such as tritium etc.		
<b>HVAC 10601410</b>	<b>HVAC/R Systems Design</b>	<b>3 Credits/Units</b>
Students will Learn to calculate heat and cooling loads for commercial buildings. Design and document heating and air conditioning systems for commercial buildings. To include boiler and forced air systems. Design and document a refrigeration system for product storage. Computer programs will be used in component selection and system design.		
<b>HVAC 50401550</b>	<b>HVAC Fundamentals of Refrigeration</b>	<b>2 Credits/Units</b>

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This course is designed to help the apprentice understand heat flow between substances. Basic theory of heat transfer methods is discussed. The basic refrigeration cycle and system components and functions is stressed. Refrigerant chemistry and pressure/temperature relationships of substances is also covered. There will also be hands-on lab work performed on actual operating refrigeration systems. Required safety procedures and proper use of tools used in the field is always of utmost importance.

**HVAC 50401560 Commercial Refrigeration 1 1 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401561 Commercial Refrigeration 2 1 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401570 Refrigeration Service Mathematics 1 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401572 Related Business 1 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401580 HVAC Refrigeration Drawing & Layout 1 Credits/Units**  
The student will be able to perform the basic drafting skills needed to make pipe drawing and sketches. The student will be able to interpret, solve and analyze typical piping offsets and draw and layout problems in the field of refrigeration.

**HVAC 50401590 Trade HVAC Semester 1 2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401591 Trade HVAC Semester 2 2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401592 Trade HVAC Semester 3 2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401593 Trade HVAC Semester 4 2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401594 Trade HVAC Semester 5 2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401595 Trade HVAC Semester 6 2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401596 Trade HVAC Semester 7 2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401597 Trade HVAC Semester 8 2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50401598 Digital Energy Management Systems 2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**HVAC 50413527 HVAC Electrical-Mechanical Equipment Servicing 1 1 Credits/Units**  
This course is Part 1 of the UA Basic Electricity curriculum. Fundamental concepts of electricity that involve direct current (dc), alternating current (ac), series and parallel inductive and resistive circuits and magnetism as applied to the HVAC/R industry. Labs & activities are focused on meter usage and troubleshooting common HVAC/R components. Introduction to wiring diagrams and conductor sizing are also included.

**HYDPNEU 50419501 Hydraulics for Apprentices 1 Credits/Units**  
Gain the knowledge of the uses and applications of hydraulics required in the apprentice trades. Hydraulic systems, devices and components will be examined. Job duties and tasks related to safety, inspection, testing, maintenance and repair will be included.

**HYDPNEU 50419502 Pneumatics for Apprentices 1 Credits/Units**  
Gain the knowledge of the uses and applications of pneumatics required in the apprentice trades. Pneumatic systems, devices and components will be examined. Job duties and tasks related to safety, inspection, testing, maintenance and repair will be included.

**IND MECH 10462100 Safety for Industry 1 Credits/Units**

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This course reviews basic safety standards for industry as outlined by OSHA. Designed for general industry workers, it focuses on identification, avoidance, control, and prevention of safety and health hazards a worker may encounter on a general industry site. Those who successfully complete the hourly and course requirements receive an OSHA 10-hour completion card. The Manufacturing Skill Standards Council (MSSC) safety standards are also reviewed.

**IND MECH 10462102 Introduction to Logic & Troubleshooting 1 Credits/Units**

The course introduces basic troubleshooting tools, methods and techniques. Students will learn about interpreting schematics, Boolean logic, truth tables, and number systems. The course uses software simulations and labs to introduce relays and relay ladder logic. Students apply common troubleshooting techniques and root cause analysis.

**IND MECH 10462104 Fluid Power 1 for Industry 1 Credits/Units**

Provides students with the fundamentals of fluid power (hydraulic and pneumatic) and a considerable literacy in the principles of pneumatics and hydraulics. Students will attain an understanding of basic pneumatics principles and practical circuits applying the recently learned principles. The course is intended to gain a general understanding of components and terminology as well as principles and functions. This course has a heavy emphasis on recognizing fluid power components, component symbols, units, equations, and terminology.

**IND MECH 10462105 Fluid Power 2 for Industry 2 Credits/Units**

Intended to develop an understanding of basic Fluid Power Circuits. Covers the application of basic fluid power systems to various machines along with maintenance and troubleshooting. The maintaining and design considerations of both hydraulic and pneumatic systems will be explored in this course with an emphasis on component selection and circuit efficiencies.

**IND MECH 10462106 Mechanisms for Industry 1 1 Credits/Units**

This course is an introduction to the mechanical systems, with lab exercises in safety procedures, Lock-out Tag-out (LOTO), key and setscrew fasteners, speed and torque measurements, efficiencies, shafts and pillow block, shaft alignment, flexible and rigid motor soft foot detection and correction. The course will survey precision measurement, lubrication, bearing types and applications, vibration analysis, and fasteners.

**IND MECH 10462107 Mechanisms for Industry 2 1 Credits/Units**

Studies basic principles of physics specific to electro-mechanical systems. Emphasizes measurement, lubrication, energy, power, machines and fluid and chemical properties, as well as installation, timing and synchronization of machine drive components. Includes hands-on disassembly and assembly of industrial components.

**IND MECH 10462109 Maintenance Management Part A 1 Credits/Units**

This course provides an understanding of how an organization or plant can improve how they do maintenance, how to keep their equipment running longer, and create a more efficient and streamlined structure so they can be competitive in today's market. Various case studies will be studied, showing the value of maintenance management within any size organization and the pitfalls that may be encountered during TPM implementation and how to avoid or correct these problems.

**IND MECH 10462304 Industrial Fluid Distribution Systems 2 Credits/Units**

Covers installation and repair of fluidic systems. Includes fittings, thread cutting, pipe sweating, roll grooving, solder, plastic cementing, repair equipment and tools. Pumps, valves, water supply systems and fire protection distribution systems covered.

**IND MECH 10462306 Metal Processes Maintenance 2 Credits/Units**

Includes machine shop operations, sheet metal work, soldering and brazing, forging and heat treatment, grinding, tool sharpening, metal casting and other metal applications as related to industrial machinery repair.

**IND MECH 10462309 Maintenance Management 2 Credits/Units**

Emphasizes maintenance management and quality control techniques to give maintenance students an understanding of their roles in an organization. Covers maintenance record keeping, parts ordering and shop operation.

**IND MECH 10462311 Industrial Equipment Mechanisms 2 1 Credits/Units**

Mechanical drive components and systems are studied with emphasis on selection, application, and proper installation techniques. Includes hands-on assembly, alignment, lubrication, and disassembly of drive shafts, bearings, seals, gaskets, belt, chain and gear drives, clutches and brakes, couplings and universal joints, linear motion components, and power transmission accessories.

**IND MECH 10462314 Industrial Maintenance Mechanic 1 3 Credits/Units**

Emphasizes basic tools used for maintenance. Presents information on lock out/tag out, confined space and safe rigging practices, manufacturing machine types and operations, torque, metal properties and hardness, gaskets, pumps, gears, motors, pulleys and alignment.

**IND MECH 10462316 Industrial Maintenance Mechanic 2 3 Credits/Units**

Emphasizes on-the-job installing, troubleshooting and maintaining manufacturing systems with special focus on automated systems. This course is completed as an internship.



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<b>IND MECH 10462318</b>	<b>Maintenance Management</b>	<b>2 Credits/Units</b>
Emphasizes maintenance management and quality control techniques to give maintenance students an understanding of their roles in an organization. Covers maintenance record keeping, parts ordering and shop operation.		
<b>IND MECH 10462320</b>	<b>DC/AC Circuits</b>	<b>3 Credits/Units</b>
Introduces the practical DC/AC concepts including electrical quantities and components and measurement instruments for AC and DC circuits used in commercial, industrial, and sustainable energy fields. Students measure voltage, current, resistance and power for single and three phase AC and DC sources. Also covers fundamentals of magnetism in electrical components, calculations of electrical components.		
<b>IND MECH 10462321</b>	<b>DCAC 1 DC Theory</b>	<b>1 Credits/Units</b>
Introduces the practical DC concepts including electrical quantities and components and measurement instruments for DC circuits used in commercial, industrial, and sustainable energy fields. Students measure voltage, current, resistance and power for single and three phase DC sources. Also covers fundamentals of magnetism in electrical components, calculations of electrical components.		
<b>IND MECH 10462322</b>	<b>Industrial Electricity and Controls</b>	<b>4 Credits/Units</b>
Studies basic principles related to electro-mechanical systems as well as motors, transformers, frequency drives and various electro-mechanical devices to enhance AC power distribution and control systems. Introduces programmable logic controllers in the on/off mode.		
<b>IND MECH 10462323</b>	<b>Industrial Electricity and Controls 1</b>	<b>2 Credits/Units</b>
Studies basic principles related to electro-mechanical systems as well as DC Controls. Introduce various electro-mechanical devices used in Industrial Control applications including Relay controls		
<b>IND MECH 10462324</b>	<b>Programmable Logic Controllers 1</b>	<b>3 Credits/Units</b>
Fundamentals of programmable logic controller (PLC) installation, interfacing, operation, and programming. Students learn about PLCs connected to Windows-based PCs running state-of-the-art programming tools. Students study discrete and analog input and output; hardware sensor interfacing and troubleshooting techniques; fundamentals of digital systems and will program PLCs using timer, counter, latch, data movement, sequencing, integer arithmetic and other instructions.		
<b>IND MECH 10462325</b>	<b>Industrial Electricity and Controls 2</b>	<b>2 Credits/Units</b>
Studies principles related to electro-mechanical systems as well as motors, transformers, frequency drives and various electro-mechanical devices to enhance AC power distribution and control systems. Introduces programmable logic controllers in the on/off mode.		
<b>IND MECH 10462326</b>	<b>Programmable Logic Controllers 2</b>	<b>3 Credits/Units</b>
Advanced programmable logic controller (PLC) installation, interfacing, operation, and programming. Students learn how to connect advanced PLCs in a typical industrial PLC network utilizing Ethernet, DH+, RS232 and RIO communication paths. Data sharing and distributed PLC programming techniques along with fundamentals of touch panel programming and operation are studied.		
<b>IND MECH 10462327</b>	<b>Electronic Circuits for Maintenance</b>	<b>3 Credits/Units</b>
Presents semiconductor devices with an emphasis on their practical use. Students construct and troubleshoot power supplies, amplifiers, electronic switches, relay drivers, photo-optical isolators and power control electronics. Students learn to identify and troubleshoot diodes, bipolar transistors (BJTs), field-effect transistors (FETs), silicon controlled rectifiers (SCRs and Triacs), light-emitting diodes (LEDs) and other components found in industrial electronics.		
<b>IND MECH 10462328</b>	<b>Interfacing Sensors with Computer Controls</b>	<b>3 Credits/Units</b>
Applies various sensors to analog input modules of programmable controllers and to A/D converters for computer systems.		
<b>IND MECH 10462329</b>	<b>DCAC 2 AC Theory</b>	<b>1 Credits/Units</b>
Introduces the practical AC concepts including electrical quantities and components and measurement instruments for AC circuits used in commercial, industrial, and sustainable energy fields. Students measure voltage, current, resistance and power for single and three phase AC sources. Also covers fundamentals of magnetism in electrical components, calculations of electrical components.		
<b>IND MECH 10462330</b>	<b>Heating and Air Conditioning 1</b>	<b>3 Credits/Units</b>
Covers basic environmental equipment maintenance. Presents applications of HVAC components, refrigeration controls, condensers, hydronics, boilers, heat exchangers, dampers, compressors, plumbing, pumps, measurement, blowers and preventive maintenance/repair. Also covers EPA CFC certification.		
<b>IND MECH 10462331</b>	<b>DCAC 3 Theory</b>	<b>1 Credits/Units</b>

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Introduces the practical DC/AC concepts including electrical quantities and components and measurement instruments for AC and DC circuits used in commercial, industrial, and sustainable energy fields. Students measure voltage, current, resistance and power for single and three phase AC and DC sources. Also covers fundamentals of magnetism in electrical components, calculations of electrical components. Motor and Transformer Theory.

**IND MECH 10462334**                      **Facilities Maintenance**                      **3 Credits/Units**  
Covers safety, schematics, wall framing, electrical services, insulation, drywall applications, painting, floor applications, roofing and siding applications. Includes the study of appropriate applications of material to facilities.

**IND MECH 10462336**                      **Building Automation Systems**                      **3 Credits/Units**  
Develops skills required to install, analyze, modify, and calibrate HVAC (Heating, Ventilating, and Air Conditioning) control systems. The fundamentals of control systems will be studied and applied to common control strategies most often found in commercial HVAC systems.

**IND MECH 10462340**                      **Manufacturing Systems, Application and Control**                      **3 Credits/Units**  
Introduces computer control systems and fundamentals of motion control. Presents programmable logic controllers (PLCs) along with design, integration and troubleshooting techniques.

**IND MECH 50462101**                      **Introduction to Heat Treating Part A**                      **0.5 Credits/Units**  
This course introduces the maintenance technician to the basics of the heat treating process. Technicians will perform heat treating on various types of steel, and learn the science behind the process. This course is a 3-part sequence: 50-462-101, 50-462-102, and 50-462-103.

**IND MECH 50462102**                      **Introduction to Heat Treating Part B**                      **0.5 Credits/Units**  
This course introduces the maintenance technician to the basics of the heat treating process. Technicians will perform heat treating on various types of steel, and learn the science behind the process. This course is a 3-part sequence: 50-462-101, 50-462-102, and 50-462-103.

**IND MECH 50462103**                      **Introduction to Heat Treating Part C**                      **0.5 Credits/Units**  
This course introduces the maintenance technician to the basics of the heat treating process. Technicians will perform heat treating on various types of steel, and learn the science behind the process. This course is a 3-part sequence: 50-462-101, 50-462-102, and 50-462-103.

**INDMANUF 10623100**                      **Safety for Industry**                      **1 Credits/Units**  
This course reviews basic safety standards for industry as outlined by OSHA. Designed for general industry workers, it focuses on identification, avoidance, control, and prevention of safety and health hazards a worker may encounter on a general industry site. Those who successfully complete the hourly and course requirements receive an OSHA 10-hour completion card. The Manufacturing Skill Standards Council (MSSC) safety standards are also reviewed.

**INDMANUF 10623200**                      **Interpreting Engineering Drawings**                      **2 Credits/Units**  
Focuses on the basic principles of engineering drawings and manufacturing processes. Through interpretation and sketching, students learn to visualize the part, section or assembly views. Students study isometric and orthographic views on a drawing. The student will also use drawings pertinent to the trades with examples in GD&T, welding, facilities, piping, sheet metal, equipment manuals, electrical symbols, and fluid power symbols.?

**INDMANUF 10623300**                      **Fluid Power 1 for Industry**                      **1 Credits/Units**  
Provides students with the fundamentals of fluid power (hydraulic and pneumatic) and a considerable literacy in the principles of pneumatics and hydraulics. Students will attain an understanding of basic pneumatics principles and practical circuits applying the recently learned principles. The course is intended to gain a general understanding of components and terminology as well as principles and functions. This course has a heavy emphasis on recognizing fluid power components, component symbols, units, equations, and terminology.

**INDMANUF 10623301**                      **Fluid Power 2 for Industry**                      **2 Credits/Units**  
Intended to develop an understanding of basic Fluid Power Circuits. Covers the application of basic fluid power systems to various machines along with maintenance and troubleshooting. The maintaining and design considerations of both hydraulic and pneumatic systems will be explored in this course with an emphasis on component selection and circuit efficiencies.

**INDMANUF 10623310**                      **Mechanisms for Industry 1**                      **1 Credits/Units**  
This course is an introduction to the mechanical systems, with lab exercises in safety procedures, Lock-out Tag-out (LOTO), key and setscrew fasteners, speed and torque measurements, efficiencies, shafts and pillow block, shaft alignment, flexible and rigid motor soft foot detection and correction. The course will survey precision measurement, lubrication, bearing types and applications, vibration analysis, and fasteners.

**INDMANUF 10623408**                      **Computer-Assisted Design-2D**                      **2 Credits/Units**

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Learn to visualize, sketch and create 2D drawings in a wide variety of disciplines using AutoCad. The course will introduce the creation and revision drawings pertinent to the trades with examples in Welding, Facilities, Piping and Instrumentation (P & ID's), Sheet Metal, Equipment Manuals (technical documents, installation/repair manuals), Electrical, and Fluid Power Facilities and Mechanical Drawings.

**INDMANUF 10623409**                      **Computer-Assisted Design-3D**                      **2 Credits/Units**  
Introductory study of working with simple 3D sketches and partly, creation. Strong emphasis on working with existing assemblies, and understanding component relationships. Students will work with OEM component 3D models and manipulating them into assemblies. Students will gain an understanding of drawing sets, and bill of materials.

**INDSGN 10304102**                      **Studio 1 - Visual Design**                      **3 Credits/Units**  
The focus of this course is on the principles and elements of design that form the conceptual basis from which to solve and evaluate design problems. Students will explore a variety of techniques to clearly communicate conceptual design ideas including oral, written, and visual techniques.

**INDSGN 10304106**                      **Construction and Drafting for Interior Design**                      **3 Credits/Units**  
This course will focus on construction methods and materials through manual drafting techniques and technical drafting conventions. Systems integration of plumbing, electrical, lighting, code regulations and materials will be explored.

**INDSGN 10304107**                      **Furniture and Textiles**                      **3 Credits/Units**  
Interior Design textiles, their construction, testing methods and uses are the premise of this course. Furniture construction and use of textiles in furniture is also explored.?

**INDSGN 10304120**                      **Tech for Interior Design 2**                      **3 Credits/Units**  
This course will build upon Technology for Interior Design 1 coursework with continuation of two-dimensional technical drawing conventions and introduction to three-dimensional and rendering software programs as methods to communicate design solutions.

**INDSGN 10304123**                      **Studio 2 - Space Planning**                      **3 Credits/Units**  
This course introduces foundational concepts and methods of planning and arranging spaces and furnishings for both residential and commercial interior environments. Emphasis will be placed on human factors, codes, universal design and professional standards emphasizing the design process.

**INDSGN 10304125**                      **Residential Design 1**                      **3 Credits/Units**  
This course is an introduction to creating functional and aesthetically pleasing residential interiors. Students will build and apply their skills, knowledge and understanding of the design process and professional practices. Emphasis will be placed on creative problem solving, furniture, material and finish selection and specification, sustainability, lighting theories and effective communication using industry standards.

**INDSGN 10304127**                      **Materials and Estimating**                      **3 Credits/Units**  
This course focuses on interior finishes, materials and the estimate of those materials for commercial and residential applications.

**INDSGN 10304129**                      **History of Interior Design**                      **3 Credits/Units**  
This course focuses on furniture and architecture from Egyptian up to Modern, as well as the history of the Interior Design Profession.

**INDSGN 10304137**                      **Studio 3 - Human-Centered Design**                      **2 Credits/Units**  
Students will apply problem-solving methods utilizing the design process in a community-based project. Focus will be on community engagement, social responsibility, and the impact of the built environment on human experience, behavior, and performance.

**INDSGN 10304142**                      **Professional Practice for Interior Design**                      **3 Credits/Units**  
This course focuses on essential interior design business practices, procedures, fees, contracts, forms and job placement skills including resume preparation. Students will also explore skills for selling services, products and design solutions as they relate to the field of interior design.

**INDSGN 10304143**                      **Residential Design 2**                      **3 Credits/Units**  
Students demonstrate their accumulated skills through the resolution of a comprehensive residential design project applying all phases of the design process and communicating final design solutions with mastered proficiency.

**INDSGN 10304147**                      **Portfolio Development**                      **2 Credits/Units**  
This course will provide students with direction and guidance to develop and prepare a professional portfolio for both the Annual Portfolio Show and employment. Students will investigate a variety of manual and digital methods allowing for effective visual composition, organization and document assembly to showcase their skills and strengths. Further emphasis will include final resume preparation, advanced interview and professional networking skills.

**INDSGN 10304177**                      **Technology for Interior Design 1**                      **2 Credits/Units**

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This course will provide basic introductions to software used in the interior design industry. Introduces students to computer-aided drawing for interior design of two-dimensional with a focus on technical drawing conventions for construction documents.

**INDSGN 10304178 Commercial Office Design 2 Credits/Units**  
Focuses on the design, specification, and documentation of commercial office spaces using conventional furniture and open office systems.

**INDSGN 10304179 Kitchen and Bath Design 3 Credits/Units**  
This course will cover the materials of Kitchen and Bathrooms as well as the design and estimating of these rooms. Design will include industry used drawing software.

**INDSGN 10304180 Technology for Interior Design 3 2 Credits/Units**  
Building upon Technology for Interior Design 2, this course will continue to explore three-dimensional and rendering software programs used in the interior design profession.

**INDSGN 10304181 Studio 4 - Advanced Interior Design 4 Credits/Units**  
This course will explore advanced applications of commercial and residential design. Students apply their knowledge of materials, finishes, furniture, lighting and building construction through all phases of the design process.

**INDSGN 10304182 Interior Design Internship 3 Credits/Units**  
Provides an opportunity to gain pragmatic work experience through supervised internships at an approved job site to gain practical knowledge of the interior design skills learned in the classroom. Students will focus on ethics, professional conduct, compensation methods, administration and project management skills as they relate to the profession of Interior Design.

**INSAFE 10449100 Safety for Industry 1 Credits/Units**  
This course reviews basic safety standards as outlined by the Occupational Safety and Health Administration (OSHA). Designed for workers going into industrial occupations, it focuses on the hazard recognition and control process. Those who successfully complete the requirements set forth by OSHA will receive an OSHA 10-Hour General Industry completion card. Students may still pass the class without earning an OSHA card.

**INSMGT 10162116 Cyber Risk Management 3 Credits/Units**  
Through actual cases, this course will take a look at the various types of cyberattacks on businesses, the potential damages and fines, and ways to holistically manage internal and external risks. Cyber Liability Insurance, as a way to transfer risk, will also be examined.

**INSMGT 10162125 Intro to Property & Casualty Insurance - PreLicensing 3 Credits/Units**  
This course provides an understanding of the property and casualty insurance protection any business or individual should have. Whether you plan on owning your own business or managing a business or department, this course provides valuable information. A comprehensive study of policy language as well as the Wisconsin state insurance laws are covered. This course also meets the state requirement for Property & Casualty PreLicensing.

**INSMGT 10162126 Introduction to Loss Investigaton (AIC 33) 3 Credits/Units**  
The claim function, factors influencing claims, the steps involved in analyzing, negotiating, and litigating first and third party claims, and the basics of property and liability losses will be covered in this class.

**INSMGT 10162131 Intro to Life & Health Insurance 3 Credits/Units**  
This course provides an overview of individual and group health coverage, disability insurance, individual and group life insurance, paying life insurance proceeds, ownership rights, beneficiaries, and the Wisconsin and federal laws that must be followed with these coverages. In addition, basic insurance terms and concepts as well as provider relationships are covered. This meets the state requirements for Life & Health pre-licensing and is a required course for the Risk Management & Insurance Diploma.

**INSMGT 10162133 Managing Business Risks 3 Credits/Units**  
This course will serve as a core. Risk Management is a foundational concept in insurance today. The legal foundations of loss exposures, the risk management process, and risk management programs will be discussed for all areas.

**INSMGT 10162135 Detecting Employee Fraud 3 Credits/Units**  
The course will cover all of the major methods employees use to commit occupational fraud. Students learn how and why occupational fraud is committed as well as how the conduct can be detected, deterred, investigated and resolved.

**INSMGT 10162136 Current Issues in Risk Management and Insurance 1 Credits/Units**  
This course focuses on trends and issues facing the Risk Management and Insurance Industries. Presentations on current topics, and tours of facilities, are provided by Risk Management firms and Insurance organizations. Locations vary each semester but travel is required with this course. Check with the instructor for current travel plans and costs prior to enrolling.

**INSMGT 10162140 Risk Management and Insurance Internship 2 Credits/Units**

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Provides an opportunity for students to apply insurance and/or risk management skills in a real life business environment. These paid internships OR unpaid mentorships may be in insurance agencies, insurance companies or other risk management settings. Duties may vary depending on the opportunity. Written assignments affiliated with the internship will also be required. Reserved for students enrolled in Risk Management and Insurance studies either in the Certificate program or as a focus in their current major. Students must have completed at least one degree credit insurance course.

<b>IT 10107111</b>	<b>Exploration of Information Technology</b>	<b>1 Credits/Units</b>
Introduces students to the various careers available in the vast field of Information Technology and examines the Cloud DevOps Specialist, Cybersecurity Specialist, Desktop Support Technician, Front End Developer, Network Specialist, Software Quality Specialist, Systems Administration Specialist, and Web Software Developer career paths. Students create an individualized career path plan as the capstone project for the course.		
<b>IT 10107175</b>	<b>Job Search Preparation</b>	<b>1 Credits/Units</b>
Introduction to planning and organizing a search for careers in information technology. Activities include the development of a personalized job search plan, resume building, creating a social media presence and answering typical interview questions.		
<b>ITCLOUD 10157101</b>	<b>Introduction to Cloud Computing</b>	<b>3 Credits/Units</b>
Introduces students to cloud based computing architectures including infrastructure, platform and software service models. Through hands-on labs with leading public cloud providers students will learn the basics of deploying technology solutions and what makes cloud based infrastructure unique. Students will learn the fundamentals of storage, security, account management, networking and monitoring as it applies to cloud computing. In addition to learning the various service offerings from public cloud providers students will gain an understanding of the private and hybrid cloud environments.		
<b>ITCLOUD 10157123</b>	<b>Advanced Scripting for Cloud</b>	<b>3 Credits/Units</b>
This course expands on techniques learned in cloud administration and scripting courses to fully automate infrastructure and cloud services. Students will build scripts to test, create and monitor cloud services. This course will utilize the latest cloud scripting languages including but not limited to cloud formation (AWS), ARM Templates (Azure), python, and Powershell. Learning will include demonstration of development best practices including version control and agile development.		
<b>ITCLOUD 10157130</b>	<b>Azure Administration</b>	<b>3 Credits/Units</b>
Students will gain an in-depth understanding of the Microsoft Azure cloud environment covering computing, networking, storage and applications. Implementing and administering solutions to common information technology challenges in Azure will be covered through class discussions and hands-on work in Azure. Students will deploy infrastructure, platform and software 'As A Service' solutions as well as learn how to use each solution effectively. Students will leave with a working knowledge of implementation and administration of a Windows Azure environment along with a preparatory foundation for Microsoft Azure Cloud Certification.		
<b>ITCLOUD 10157135</b>	<b>VMware Certified Professional (VCP)</b>	<b>3 Credits/Units</b>
This hands-on training course explores installation, configuration, and management of VMware® vSphere™, which consists of VMware ESXi™ and VMware vCenter™ Server. Students are introduced to virtualization and storage management concepts using VMware server virtualization products.		
<b>ITCLOUD 10157141</b>	<b>AWS Administration</b>	<b>3 Credits/Units</b>
Explores the Amazon AWS Cloud environment in-depth through hands-on labs and class discussion. Students will learn how to architect, deploy and administer common AWS solutions. In depth coverage of Amazon EC2 servers, S3 and EBS storage, VPC networking, IAM identity management and other offerings as they become available in AWS. In addition students will learn the fundamentals of automation through tools like Cloud Formation and monitoring via Cloud Watch. This course provides a preparatory foundation for the Amazon AWS Architecture certification.		
<b>ITCLOUD 10157155</b>	<b>DevOps</b>	<b>3 Credits/Units</b>
Students will learn the fundamental concepts of the DevOps methodology, and demonstrate solution delivery using cloud based services and tools. This includes the design, testing and execution of an application deployment pipeline using DevOps practices and cloud technologies. The focus is automating Public Cloud solutions while exploring Hybrid-Cloud solutions where appropriate.		
<b>ITCLOUD 10157196</b>	<b>Cloud Internship</b>	<b>3 Credits/Units</b>
Provides work experience in an area data center environment offering a variety of experiences administering cloud services. The student spends approximately 15 hours per week at the internship site. By consent of instructor, a special project may be substituted for the internship.		
<b>ITDATA 10156124</b>	<b>Introduction to Databases</b>	<b>3 Credits/Units</b>
Introduces the student to relational database concepts using the MS Access and MySQL database environments. Students then study concepts that lead to good relational database design including an introduction to normalization. Basic SQL statements are practiced also. NOTE: Students are required to have a working knowledge of Microsoft Windows operating system (computer literacy, proficiency with a mouse, file management).		
<b>ITDATA 10156125</b>	<b>SQL Database Programming</b>	<b>3 Credits/Units</b>

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Presents relational database concepts and teaches beginning to intermediate Structured Query Language (SQL) using an Oracle database. Students learn to create and maintain database objects and to store, retrieve, and manipulate data. Demonstrations and hands-on practice reinforce the fundamental concepts.

**ITDATA 10156128** **Big Data Fundamentals** **3 Credits/Units**  
This course provides an introduction to the burgeoning world of data beyond relational databases. The course will cover data lakes, data cleansing (ETL), cluster computing, data warehousing and a primer on basic statistical concepts. Students will learn the Python programming language and how to use it to solve and visualize analytic problems.

**ITDATA 10156129** **Advanced Big Data Topics** **3 Credits/Units**  
This course explores the deeper topics involved with Big Data. With the emergence of the Internet of Things (IoT), programmers must learn to handle massive volumes of data in real time. The course will use the streaming data capabilities of Spark to solve the complexities that arise from IoT. With the recent explosion of deep learning, the course also explores neural networks and the basics of artificial intelligence.

**ITNET 10150121** **Intro to Cisco Networking** **3 Credits/Units**  
This is an introductory course covering networking architecture, structure, and functions. The course introduces the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations to provide a foundation for subsequent networking topics across all IT programs. Students will learn technology concepts with the support of interactive media and apply and practice this knowledge through a series of hands-on and simulated activities. NOTE: Must enroll in Cisco Networking 2, 10150122 within one year of completion of Intro to Cisco Networking, 10150121; Working knowledge of Microsoft Windows (computer literacy, proficiency with a mouse, file management).

**ITNET 10150122** **Cisco Networking 2** **3 Credits/Units**  
This course covers the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. NOTE: must follow Intro to Cisco Networking, 10150121, within one year.

**ITNET 10150123** **Cisco Networking 3** **3 Credits/Units**  
This course covers the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality. Other topics include, WAN technologies, basic network security, and network design and troubleshooting. NOTE: must follow Cisco Networking 2, 10150122 within one year.

**ITNET 10150150** **VoIP Convergence Fundamentals** **3 Credits/Units**  
This class prepares students for the Cisco CCNA-Voice certification. It will introduce students to the terms and definitions of Analog phone systems and Voice over IP (VoIP) networks. Topics included in this course will be configuring and maintaining an IP Telephony system, provisioning phones and users, configuring call features, and establishing voicemail. Cisco Call Manager, Call Manager Express, Cisco Unity Connection Voicemail, and Cisco VoIP phones are used to configure and build a converged IP telephony infrastructure suitable for a business. Troubleshooting will be emphasized.

**ITNET 10150151** **Advanced Networking Topics** **3 Credits/Units**  
This class introduces more advanced networking topics from the CCNP exams, such as: Implementing VLAN based solutions with secure layer 2 and layer 3 services, implementing High Availability in a LAN and WAN, implementing QoS on converged networks, specific IP QoS mechanisms for implementing the DiffServ QoS model, wireless security and basic wireless management. Quality of Service (QoS) will be used to design and implement a structure to prioritize voice and data applications across the network. Wireless will include mobility between lightweight access points. Troubleshooting and teamwork will be emphasized.

**ITNET 10150163** **Software Defined Networking** **3 Credits/Units**  
Introduction to SDN is a fourth semester lecture/lab class that introduces the fundamentals of Software Defined Networking in a physical and virtual environment. Students will learn the basics of network automation, using Python scripting, learn fundamentals of data handling formats like JSON and XML, and implement device programmability, using REST requests to device APIs.

**ITNET 10150190** **Wireless Topics** **3 Credits/Units**  
This is an introductory course on Wireless Networking. The course encompasses the design, planning, implementation, operation and troubleshooting of Wireless Networking. The course will provide a comprehensive overview of technologies, security, and design best practices. The course will include hands-on installation and configuration of Wireless Client Adapters, Routers, Access Points, Repeaters, Bridges and other wireless devices.

**ITNET 10150194** **Firewall/VPN Technologies** **3 Credits/Units**  
This course introduces the security student to the common technologies used for defending the perimeter of a modern business network. In depth hands-on exercises are used to instruct the student in the related technologies including NAT, PAT, ACL construction, application gateways, and stateful packet inspection. The student additionally learns a common implementation of both site-to-site and remote access VPN's. The student must demonstrate the ability to implement a basic firewall that simulates the perimeter of a basic business network.

**ITNET 10150195** **Networking Internship** **3 Credits/Units**

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An on-the-job experience, with instructor supervision, in Madison area networking companies and in companies that maintain and manage computer networks. The emphasis is on hands-on design, installation, configuration, management, documentation, troubleshooting and maintenance of LANs.

<b>ITPROG 10152103</b>	<b>C# Web Development Using ASP.NET</b>	<b>3 Credits/Units</b>
Students learn to develop Microsoft ASP.NET Core applications that deliver dynamic content to the web. An emphasis is placed on server-side programming and the role that ASP.NET Core plays. As part of the class, students create ASP.NET Core MVC applications, display dynamic data from a database using MySQL connection and data objects and Entity Framework Core ORM. Students will also be introduced to ASP.NET Core WebAPI.		
<b>ITPROG 10152108</b>	<b>Advanced Cloud for Developers</b>	<b>3 Credits/Units</b>
This class introduces students to Serverless cloud computing from a front- end web developer point of view. Gain experience with popular Serverless cloud offerings including, authentication, cloud APIs, GraphQL, and others. Awareness and experience with Serverless is essential as your career progresses toward full-stack software development.		
<b>ITPROG 10152109</b>	<b>Python Scripting</b>	<b>3 Credits/Units</b>
This is an introductory scripting course in the Python programming language. Topics include: basic programming techniques, I/O, data processing, file manipulation, program control logic, functions, modules, and exception handling.		
<b>ITPROG 10152110</b>	<b>Cloud for Developers</b>	<b>3 Credits/Units</b>
In this course, you learn how to use the AWS SDK to develop secure and scalable cloud applications. Explore how to interact with AWS using code and also learn about key concepts, best practices, and troubleshooting tips.		
<b>ITPROG 10152111</b>	<b>Java Programming</b>	<b>3 Credits/Units</b>
Introduces programming and object-oriented design concepts using the Java programming language. Students learn all the Java programming basics and use a simple text editor as a development environment. Design concepts and programming tools will be integrated with an emphasis on practical business solutions.		
<b>ITPROG 10152112</b>	<b>Advanced Java Programming</b>	<b>3 Credits/Units</b>
Focuses on the server side of application programming for the web. Topics include: Java servlets, database access with JDBC, JavaServer Pages, JavaBeans and source code management. A portion of the class deals with application design issues in a web environment.		
<b>ITPROG 10152113</b>	<b>Enterprise Java Programming</b>	<b>3 Credits/Units</b>
The third class of the Java sequence explores advanced Java topics including JDBC, Servlets, JSPs, XML, DAOs, object-relational mapping frameworks, asynchronous messaging, web services, unit testing, logging, custom tag libraries, application build and deployment, and version control. Students will gain familiarity with the Amazon AWS Cloud environment as they deploy web applications in the cloud.		
<b>ITPROG 10152114</b>	<b>Front End Development Internship</b>	<b>3 Credits/Units</b>
Opportunities for students to gain experience in Front End development through an internship in an actual software development department. Students will seek internship opportunities and interview to be selected for internships. The student spends approximately 216 hours over the course of the semester at the internship site. If no internship is available, a special project may be substituted for the internship by consent of the instructor. Activities can include requirements gathering, front End development, and testing of new and existing front end software. In addition, students will share internship experiences with other students at the end of the term.		
<b>ITPROG 10152119</b>	<b>Introduction to Programming with JavaScript</b>	<b>3 Credits/Units</b>
Teaches the basic concepts of programming using the JavaScript language. Topics include: embedding JavaScript in HTML, event-driven programming techniques, program control logic, and an introduction to object-oriented programming.		
<b>ITPROG 10152120</b>	<b>Website Development</b>	<b>3 Credits/Units</b>
Teaches the fundamentals and techniques of developing websites using HTML and CSS. Topics include webpage design and structure, tables, image manipulation, forms, and an introduction to website accessibility. Prerequisite: working knowledge of Microsoft Windows (computer literacy, proficiency with a mouse, File Explorer, and file/folder management), good reading and problem-solving skills.		
<b>ITPROG 10152121</b>	<b>Advanced CSS</b>	<b>3 Credits/Units</b>
Provides the student with experience in the design and implementation of business Internet websites. Topics include: website accessibility, testing and improving website performance, implementing various styles of responsive web design, incorporating advanced cascading style sheets (CSS) concepts including minification, LESS, SASS, Bootstrap, W3.CSS.		
<b>ITPROG 10152130</b>	<b>UI/UX for Developers</b>	<b>3 Credits/Units</b>

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This course explores the fundamentals of UI and UX design principles with a focus on accessibility for developers. Students will investigate user-centered ideas and techniques to improve the usability of websites, forms, and mobile applications. Topics include user research, design elements, user workflows, and usability testing while relating them to the development process.

### **ITPROG 10152131 Agile Practices 3 Credits/Units**

This course teaches students the basics of Agile software development. Students learn how to communicate, plan, estimate, and track software projects as well as how to participate in various roles on software development teams. Students are also exposed to popular software architectures, cloud basics, and formal Scrum/Kanban principles.

### **ITPROG 10152132 Web Software Developer Internship 3 Credits/Units**

Opportunities for students to gain experience in Web software development through an internship in an actual information systems department. Students will seek internship opportunities and interview to be selected for internships. The student spends approximately 216 hours over the course of the semester at the internship site. If no internship is available, a special project may be substituted for the internship by consent of the instructor. Activities can include requirements gathering, software development, and testing of new and existing web software. In addition, students will share internship experiences with other students at the end of the term.

### **ITPROG 10152138 Software Quality Scripting 3 Credits/Units**

This course introduces scripting concepts using Python, Powershell in a Bash environment. Students will use these programming environments to explore programming fundamentals through hands-on activities. Software Quality is introduced as a core programming concept using information assurance, unit testing, and functional decomposition. Additional concepts including documentation, reuse, and maintainability are explored. NOTE: Recommend enrollment in Software Quality Fundamentals, 10152200 during the same semester.

### **ITPROG 10152139 iOS Development 3 Credits/Units**

The purpose of this course is to introduce students to the development of iOS applications (e.g., iPhone/iPad/iPod/Apple Watch devices). Students will work with modern development concepts using the Swift programming language. Students will be introduced to Object-Oriented, Functional Programming, event-driven programming, and multi-threaded programming. Students will start developing iOS applications using the Xcode IDE and the iOS Simulator.

### **ITPROG 10152158 JS Frameworks 3 Credits/Units**

Learn modern approaches to front-end web development with JavaScript (JS). This course will introduce students to many facets of front-end web development including: Popular JS frameworks such as Angular, React, and Vue. Programming in a functional style with TypeScript and JavaScript. Real world team development with Git and GitHub.

### **ITPROG 10152159 Kotlin Programming 3 Credits/Units**

Learn fundamental programming techniques and modern design using the Kotlin programming language. The course explores functional programming as well as object-oriented programming techniques commonly utilized in mobile application development. As Kotlin is a multiplatform language, students will learn and practice a wide variety of Kotlin features and applications including introductory Android application development.

### **ITPROG 10152166 PHP Web Development with MySQL 3 Credits/Units**

This course introduces the student to dynamic web page development using the PHP programming language. Students will learn how PHP works, how to effectively use many of its powerful features, and how to design and build their own PHP web applications. The popular MySQL open source database management software (DBMS) will also be introduced as a powerful backend for PHP websites.

### **ITPROG 10152167 Advanced PHP and MySQL Web Development 3 Credits/Units**

This course prepares the student to implement professional PHP and MySQL web applications. Students will learn advanced techniques for session management, validation, and authentication. Students will also learn how to create and deploy a LAMP stack locally and remotely to a dedicated hosting platform. Advanced web application features such as PDO, content management using WordPress, customizing WordPress, and creating web services are discussed. Installation and customization of open source PHP web applications are also covered.

### **ITPROG 10152168 Advanced Javascript 3 Credits/Units**

AJAX turns static web pages into interactive applications, allowing you to deploy rich-client applications. Course covers the basics of DHTML, Javascript, and the XMLHttpRequest. Students will also learn how to use modern Javascript as a functional programming language through the use of Map, Reduce, Filter.

### **ITPROG 10152174 IT Mobile Development Internship 3 Credits/Units**

Opportunities for students to learn and practice Mobile applications development in a hands on experience in a local IT employer. Objectives commensurate with student's background and experience. Students will seek internship opportunities and interview to be selected for internships. Activities include determining requirements for an application in either Android or iOS, then developing and testing this application. In addition, students will share their internship experiences with other interns. If an internship experience is not available, students may (with instructor approval) complete a mobile development project under supervision of the instructor.



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<b>ITPROG 10152182</b>	<b>Advanced Front End Development</b>	<b>3 Credits/Units</b>
<p>Students apply their skills and abilities toward the design and implementation of a complete front end web application. Full life-cycle software development practices such as technology choice, project scoping, planning, estimating and tracking are experienced first-hand working with a project mentor. In addition, students will learn how to effectively investigate and incorporate new and trending technologies in the constantly changing field of front end web development.</p>		
<b>ITPROG 10152189</b>	<b>Android Applications Development with Kotlin</b>	<b>3 Credits/Units</b>
<p>This course introduces developing applications for Android devices using Kotlin versus Java. Topics include Android UI layout and widgets, both in XML and programmatically; Android SDK versions and compatibility; model-view-controller (MVC); user interface and navigation; permissions; data and file storage; device dependency issues. Heavy emphasis will be placed on overall design and efficiency. It is not necessary to own an Android device, though the applications developed in the course can be deployed to one. Basic Kotlin programming knowledge is assumed. Development and debugging in Android Studio IDE is covered.</p>		
<b>ITPROG 10152200</b>	<b>Software Quality Fundamentals</b>	<b>4 Credits/Units</b>
<p>This course introduces the fundamentals of software quality. Students will be exposed to the principles, methodologies, and best practices used within the IT industry for quality assurance. Return on investment in software quality will be explored with exercises in statistical risk and perspective analysis. Students will explore how requirements gathering, test case management, and software development life cycles impact software quality. Students will implement test strategies including static, exploratory, and dynamic techniques using common testing tools used within the industry.</p>		
<b>ITPROG 10152201</b>	<b>Software Quality Automation</b>	<b>4 Credits/Units</b>
<p>This course expands upon basic automated techniques in software quality. Students will apply scripting languages to implement automated testing strategies on IT systems in a mock business environment. Concepts such as system coupling, functional and interrelated dependencies, and testing granularity will be covered. Test environment setup and management for system, integration, and performance/load testing will be explored and implemented, and further supported by exercises in statistical risk and perspective analysis. The course explores automated testing techniques from a platform-agnostic perspective enabling students to apply their skills in any environment.</p>		
<b>ITPROG 10152202</b>	<b>Software Quality Internship</b>	<b>3 Credits/Units</b>
<p>Opportunities for students to gain experience in software quality testing through an internship in an actual information systems department. Students will seek internship opportunities and interview to be selected for internships. The student spends approximately 216 hours over the course of the semester at the internship site. If no internship is available, a special project may be substituted for the internship by consent of the instructor. Activities can include requirements gathering and testing of new and existing software.</p>		
<b>ITSECUR 10151102</b>	<b>IT Security Awareness</b>	<b>1 Credits/Units</b>
<p>Provides a basic survey of the importance of IT security awareness and data confidentiality. This course walks users through basic aspects of information security in a very broad, easy to understand way and explains the value of securing data. The course will also present best practices in access control and password policies. NOTE: Working knowledge of Microsoft Windows (computer literacy, proficiency with a mouse, file management) required.</p>		
<b>ITSECUR 10151114</b>	<b>Linux Server 2 (Security)</b>	<b>3 Credits/Units</b>
<p>This class provides students with the tools they need to perform common administrative functions in some of the most popular scripting environments. The class will examine PHP in the context of an Apache webserver, and then it will examine using GNU BASH and Microsoft PowerShell scripting from the command line to complete every day administrative functions. Tools include: Bash, PHP, Apache, and PowerShell.</p>		
<b>ITSECUR 10151127</b>	<b>Securing Industrial IoT</b>	<b>3 Credits/Units</b>
<p>Students learn to understand their networked industrial control system (ICS) environment, monitor it for threats, and perform incident response against identified threats. Using these skills will allow a successful student to counter advanced adversaries targeting ICS infrastructure. A hands-on approach using real hardware and real-world sample malware empower the student to dissect ICS cyber attacks from start to finish.</p>		
<b>ITSECUR 10151128</b>	<b>Advanced Securing Industrial IoT</b>	<b>3 Credits/Units</b>
<p>This class continues with the skills learned in the "Securing Industrial IoT" class. We will be taking a more indepth look and the protocols and processes involved in a modern ICS setting. Students will apply the tools and techniques to study the impact on a mock power grid model.</p>		
<b>ITSECUR 10151133</b>	<b>Network Forensics and Threat Hunting</b>	<b>3 Credits/Units</b>

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This course provides a hands-on first look at some of the tools, techniques, and procedures used for network based forensics and threat hunting. Attacks by basic to advanced threat actors will leave artifacts that can be detected. The malware they use must communicate somehow over the network for Command and Control (C2) and data exfiltration. We will study collecting and correlating current and historic pcap-based network data with host and network generated logs to create a profile of an attack for post-incident investigations and reporting or proactive threat hunting. Open source tools include: Security Onion 2.0 [Hunt, Kibana, The Hive, Playbook, Cyber Chef, Network Miner, Wireshark, etc...]

**ITSECUR 10151137                      Intrusion Detection                      3 Credits/Units**  
Provides an overview of the tools and techniques commonly used for detecting threats to an enterprise infrastructure. Implement strategies for documenting and reporting detected events based on industry standard compliance frameworks. We will use the Security Onion distribution. Tools include Elasticsearch, Logstash, Kibana (ELK), Wazuh, Snort, Zeek, Wireshark, and TCP Dump.

**ITSECUR 10151142                      Web Application Security                      3 Credits/Units**  
This course provides a broad overview of the tools and techniques commonly used for web application security testing. In depth hands-on exercises are used to instruct the student in the proper selection and application of a given tool for the intended task. Also included are basic strategies for documenting and reporting on the outcome of the test. The student must demonstrate the ability to plan, and execute a basic web security audit in an environment that simulates a common business or organization. Open Source tools include: The BURP suite, Python, etc...

**ITSECUR 10151164                      Penetration Testing                      3 Credits/Units**  
This course provides a broad overview of the tools and techniques commonly used for penetration testing. In depth hands-on exercises are used to instruct the student in the proper selection and application of a given tool for the intended task. Also included are basic strategies for documenting and reporting on the outcome of the test. The student must demonstrate the ability to plan, and execute a basic network security audit in an environment that simulates a common business or organization. Open Source tools include: NMap, Metasploit, Medusa, etc...

**ITSECUR 10151168                      Security Design                      3 Credits/Units**  
This course affords the network security specialist the opportunity to design a secure network in a team environment using the skills learned from the prerequisite classes. The student must demonstrate the ability to design, plan and execute an infrastructure that represents the services offered by a common business or organization. The student will research their part of the design and must prepare written document including notes, diagrams, references, and implementation instructions of their part of the total design.

**ITSECUR 10151197                      Cybersecurity Internship                      3 Credits/Units**  
An on-the-job experience in Madison area companies that maintain, manage and secure computer networks. The emphasis is on hands-on design, installation, configuration, management, documentation, troubleshooting, maintenance and securing of LANs. By consent of instructor, a special project may be substituted for the internship.

**ITTECSUP 10154104                      A+ Hardware Essentials                      3 Credits/Units**  
This course presents a comprehensive overview of computer system fundamentals. Through hands-on activities and labs, students gain skills in assembling, configuring and maintaining PCs and operating system software. Participants learn to apply troubleshooting skills to properly diagnose and resolve common hardware and software problems. This course can help prepare students for CompTIA's A+ 220-1001 exam. CompTIA's A+ certification is a widely accepted IT industry standard certification for an entry-level IT PC support professional.

**ITTECSUP 10154118                      Infrastructure Automation                      3 Credits/Units**  
This class provides students with the tools they need to manage and automate IT Infrastructures. Students will learn the basics of scripting and tool creation using Windows PowerShell. Along with developing scripts and tools in PowerShell, students will learn about other tools and trends for managing on-premises and cloud infrastructures.

**ITTECSUP 10154122                      IT Service Concepts                      3 Credits/Units**  
This course is an introduction to the broad range of customer service topics an entry-level user support specialist is expected to know. The course explores the kinds of knowledge, skills, and abilities needed for a successful career in the IT support industry. Topics include successful communication with technology users, end-user training, budgeting and other management priorities, the evolution of IT support, and best practices of the ITIL framework.

**ITTECSUP 10154147                      Supporting Emerging Technologies                      3 Credits/Units**  
Students explore new and emerging technologies and learn how to provide technical support to early adopters of those technologies. Participants diagnose and solve information technology problems by examining the core functions of emerging technologies and by using advanced troubleshooting techniques. Topics include new operating systems and devices, mobile computing support, new technology support techniques and support in a virtualized environment.

**ITTECSUP 10154171                      Windows Server 1                      3 Credits/Units**  
Gain the skills necessary for supporting and configuring a Windows server including the installation and configuration of Windows Active Directory environment. Configure and deploy network services such as DHCP and DNS. Learn the practical skills required to create and implement Group Policy and configure security policies.

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### **ITTECSUP 10154172**

#### **Windows Server 2**

**3 Credits/Units**

Gain the skills to support and maintain a Windows Active Directory environment. We will build on the basic concepts presented in Windows Server 1 in more complex Active Directory environments designed to suit several sample business scenarios. Working with Windows Server Core, concepts in OU design, bulk object creation with import files and Powershell scripts, delegation of control, and advanced applications of Group Policy will be covered. The course will also emphasize documentation, and testing that the specifications from the various scenarios are met.

### **ITTECSUP 10154184**

#### **Enterprise Client**

**3 Credits/Units**

Learn how to install, configure and administer a desktop operating system for an enterprise office environment. Topics include Windows installation, device configuration, establishing network connectivity, Windows user profiles, configuring appropriate NTFS and share permissions, remote connections, and an introduction to commands using a command prompt. NOTE prereq: Students are required to have a working knowledge of Microsoft Windows operating system (computer literacy, proficiency with a mouse, file management).

### **ITTECSUP 10154190**

#### **Linux Server 1**

**3 Credits/Units**

Introduces Linux with a focus on system administration skills. Topics include installation, file and directory management, command execution, input/output redirection and pipes, shell scripts, network services, security and troubleshooting.

### **ITTECSUP 10154198**

#### **Systems Administration Internship**

**3 Credits/Units**

Provides work experience in an area data center environment offering a variety of experiences managing and operating computer systems. The student spends approximately 15 hours per week at the internship site. By consent of instructor, a special project may be substituted for the internship.

### **JOURNAL 20801245**

#### **Introduction to Journalism**

**3 Credits/Units**

This introductory course in journalism provides students with a better understanding of the unique role and responsibility of the journalist working in a democratic society. The course covers the problems and techniques of the news reporter and provides practical experience in news gathering, editing, interviewing and copyrighting through lab work and submission to the student newspaper. Students focus on "Level 1" journalism: spot news reporting, such as crime, politics, and community gatherings such as sports and music events.

### **JOURNAL 20801246**

#### **Investigative Journalism**

**3 Credits/Units**

In this course, students will move beyond basic news writing and reporting skills. Students will focus on the role of investigative reporting in society and the public's right to know. Workshop-style training will be led by the instructor. The learner will develop investigative techniques to examine issues of ethics, fairness and accuracy. Students will identify patterns of systemic problems, not just one isolated incidents affecting individuals, as well as explain complex social problems and reveal any evidence of wrongdoing or abuse of power. These discoveries will be developed into an in-depth feature story that illustrates the importance of organization in the feature writing process for publication.

### **JOURNAL 20801251**

#### **Introduction to Mass Communication**

**4 Credits/Units**

Focuses on the history, evolution, and societal role of our media. This course is divided into three modules. Module 1 ("Storytelling and the Written Word") focuses on the evolution of books, newspapers, and magazines. In addition, students will learn how the written communication is changing because of social media and media convergence. Module 2 ("Sound and Visual Stories") examines the music industry, radio, television, and film. In addition, the video gaming industry is explored. Module 3 ("The Business, Ethics, and Laws of Media") focuses on advertising, public relations, and media conglomeration. In addition, laws and ethical situations affecting our media will be discussed.

### **JOURNAL 20801252**

#### **World Issues Journalism**

**3 Credits/Units**

This course focuses on radio news reporting skills that are applied to world issues: water, energy, food, war, and free speech. Students will investigate these issues to produce audio podcast news stories. Students will learn how to write radio news scripts before orally presenting them using audio podcast software.

### **JOURNAL 20801253**

#### **Documentary Storytelling**

**3 Credits/Units**

Documentary Storytelling is an introduction to the craft of telling non-fiction and news stories through the medium of digital video. This course will teach news reporting and writing skills needed for the documentary format, along with journalism theory, law, and ethics of video journalism. Students will also learn basic digital camcorder operation, storyboard development, video editing, sound editing, and podcasting.

### **JOURNAL 20801262**

#### **Social Media Writing**

**3 Credits/Units**

This course examines the rhetorical and publishing strategies used for innovative new media formats, in particular social media platforms. Students will look at the differences between linear and interactive writing, interactive publishing, and the role of the interactive writer. An emphasis is placed on the skills needed for quality storytelling via social media communication. Students will also learn how social media platforms can be used as researching tools (i.e. crowd sourcing), and they will implement social media research campaigns. Throughout the course, the students' writing and research work will be showcased as text, video, and audio stories published on their own Web/blog sites.

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<b>JOURNAL 20801269</b>	<b>On-Air Performance</b>	<b>3 Credits/Units</b>
This course is an introduction to the skills and theory of on-air radio and television/video announcing. Students will learn the on-air broadcast skills of presenting news information to mass audiences in both audio and television/video formats. Students will also examine newscast theory and the history of radio and television news.		
<b>JOURNAL 20801271</b>	<b>Journalism Practicum 1</b>	<b>1 Credits/Units</b>
Journalism Practicum 1 offers real-world journalism experiences. Students learn news reporting and writing skills by spending at least 36 hours working as a journalist for The Clarion, the college's student media organization consisting of a newspaper, a news website, a radio station, and a television news outlet.		
<b>JOURNAL 20801272</b>	<b>Journalism Practicum 2</b>	<b>1 Credits/Units</b>
Journalism Practicum 2 offers real-world experiences in journalism or strategic communications. In addition to news writing, students practice long-form journalism, feature writing, and photography. Students must spend at least 36 hours working as a journalist for a local news media outlet or as a digital content creator for a local company or non-profit organization.		
<b>JOURNAL 20801273</b>	<b>Journalism Practicum 3</b>	<b>2 Credits/Units</b>
Students practice social media writing, multimedia reporting, and radio broadcast. Students must spend at least 72 hours working as a journalist for a local news media outlet or as a digital content creator for a local company or non-profit organization.		
<b>JOURNAL 20801274</b>	<b>Journalism Practicum 4</b>	<b>2 Credits/Units</b>
Offers "managerial" experiences in journalism or strategic communications. Students must spend at least 72 hours working as a journalist for a local news media outlet or as a digital content creator for a local company or non-profit organization. Students will submit a portfolio of their work via a website platform and develop a career plan.		
<b>LABASST 10513109</b>	<b>Blood Bank</b>	<b>4 Credits/Units</b>
Emphasis is focused on basic blood banking concepts and procedures including forward and reverse blood typing, screening for antibodies, antigen typing, selection of appropriate blood products and compatibility testing. Further work explores protocols to identify antibodies and workup adverse reactions to transfusions and hemolytic disease states.		
<b>LABASST 10513110</b>	<b>Basic Lab Skills</b>	<b>1 Credits/Units</b>
This course explores health career options and fundamental principles and procedures of the clinical laboratory. It incorporates medical terminology, basic laboratory equipment, safety and infection control procedures, and simple laboratory tests.		
<b>LABASST 10513111</b>	<b>Phlebotomy</b>	<b>2 Credits/Units</b>
<b>LABASST 10513113</b>	<b>QA Lab Math</b>	<b>1 Credits/Units</b>
This course focuses on performing the mathematical calculations routinely used in laboratory settings. Students explore the concepts of quality control and quality assurance in the laboratory.		
<b>LABASST 10513114</b>	<b>Urinalysis</b>	<b>2 Credits/Units</b>
This course prepares you to perform a complete urinalysis which includes physical, chemical and microscopic analysis. You will explore renal physiology and correlate urinalysis results with clinical conditions.		
<b>LABASST 10513115</b>	<b>Basic Immunology Concepts</b>	<b>2 Credits/Units</b>
<b>LABASST 10513116</b>	<b>Clinical Chemistry</b>	<b>4 Credits/Units</b>
Introduces techniques and procedures for routine analysis using photometric and potentiometric techniques, immunoassays, separation techniques, and the use of automated laboratory instrumentation. Covers pathophysiology and methodologies for analyzing carbohydrates, electrolytes, proteins and blood gases. Includes studies of cardiac markers, tumor markers, endocrine function, lipids, trace metals and enzymes.		
<b>LABASST 10513120</b>	<b>Basic Hematology</b>	<b>3 Credits/Units</b>
<b>LABASST 10513121</b>	<b>Coagulation</b>	<b>1 Credits/Units</b>
<b>LABASST 10513130</b>	<b>Advanced Hematology</b>	<b>2 Credits/Units</b>
This course explores mechanisms involved in the development of hematological disorders. Emphasis is placed upon laboratory techniques used to diagnose disorders and monitor treatment. Pre-requisites: 10-513-115, 10-513-120, 10-513-121, 10-513-122, 10-513-123, and 20-806-273.		
<b>LABASST 10513133</b>	<b>Clinical Microbiology</b>	<b>4 Credits/Units</b>

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This course presents the clinical importance of infectious diseases with emphasis upon the appropriate collection, handling and identification of clinically relevant bacteria. Disease states, modes of transmission and methods of prevention and control, including antibiotic susceptibility testing, will also be discussed. Prep-requisites: 10-513-115, 10-513-120, 10-513-121, 10-513-122, 10-513-123, and 20-806-273. Co-requisites: 10-513-130, 10-513-131, and 10-153-132.

### **LABASST 10513140                      Advanced Microbiology                      2 Credits/Units**

This course provides an overview of acid fast organisms, fungi, parasites, and anaerobic bacteria. The organisms, their pathophysiology, epidemiology, the diseases and conditions that they cause, laboratory methods of handling, culturing and identification will be discussed.

### **LABASST 10513141                      Pre-Clinical Experience                      2 Credits/Units**

This course provides opportunities to practice the principles and procedures of laboratory medicine in a clinical laboratory setting. Students learn to operate state of the art instruments and report results on Laboratory Information Systems. Clinical content is reviewed and students run a mock-clinical laboratory from specimen acquisition to result reporting. Resume writing and interviewing techniques are also discussed. Pre-requisites: satisfactory completion of 1st and 3rd semester Clinical Laboratory Technician program courses and concurrent enrollment in Advanced Microbiology, 10-513-140 and Clinical Experience 1, 10-513-151.

### **LABASST 10513151                      Clinical Experience 1                      3 Credits/Units**

Provides opportunities to practice the principles and procedures of laboratory medicine on-site, in a clinical laboratory facility. Students will practice on state of the art instrumentation in several areas of the clinical laboratory.

### **LABASST 10513152                      Clinical Experience 2                      4 Credits/Units**

Provides continuing practice for the principles and the procedures of laboratory medicine as an entry level Clinical Laboratory Technician in a clinical laboratory setting. You will learn to operate state of the art instruments and report results on Laboratory Information Systems.

### **LABASST 10513153                      Capstone Project                      1 Credits/Units**

Students will prepare a portfolio of professional experiences, assessments and evaluations, class projects and a resume for employment.

### **LABASST 10513170                      Introduction to Molecular Diagnostics                      2 Credits/Units**

The Molecular Diagnostics course will give students background knowledge in DNA and RNA structure and functioning including nuclear packaging, transcription, translation and modifications. We will also cover basic genetic inheritance. Specific methods we will perform or discuss will include nucleic acid isolation and detection, target amplification and sequencing of target genes. We will also address the use of molecular methods to identify microorganisms, classify neoplasms and characterize MCH loci.

### **LANG INT 31538303                      Cultural Competency and the Medical Setting                      2 Credits/Units**

An orientation to some of the factors that influence people to speak, act, negotiate and make decisions. The objective is to modify personal assumptions and habits that impede success in the workplace, at whatever level of employment, whether domestic or international. Students will learn how styles of thinking, value systems and political/social realities affect relationships. Special consideration will be given to international communication, negotiations, marketing and host international visitors. Class is taught in English.

### **LANG INT 31538304                      Introduction to Interpreting in Spanish                      2 Credits/Units**

Specific theories and practices in interpreting oral communication from English to Spanish and Spanish to English. Includes theories of interpretation, techniques of interpretation, interpretation strategies, interpretation procedures, and modes of interpretation. Class is taught in English and Spanish. Prerequisite: 31-538-301.

### **LANG INT 31538305                      Introduction to Basic Translation Skills in Spanish                      2 Credits/Units**

Principles and procedures for the translation of written materials. Includes an introduction to translation, translation preparation, translation procedures, basics of grammar in the target languages English and Spanish. Analysis of the Spanish language from the translator's point of view. Includes the structure of Spanish, cultural and stylistic components, paragraph and document development, mechanics and punctuation for editing, and writing resources. Class is taught in English and Spanish. Prerequisite: 31-538-302.

### **LANG INT 31538308                      Interpreting in Healthcare in Spanish                      1 Credits/Units**

This course develops the techniques, practice and knowledge needed to function as interpreters in a medical environment. Interpretation modes such as sight translation and consecutive interpretation as they apply to the medical setting are emphasized. Medical vocabulary/terminology in both English and Spanish will also be introduced. Class is taught in English and Spanish. Prerequisites: 31-538-301; 31-538-302; 31-538-304; 31-538-305. Corequisites: 31-538-303

### **LANG INT 31538309                      Interpreting in Medical and Mental Health Settings                      1 Credits/Units**

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This course develops the techniques, practice and knowledge needed to function as interpreters in a medical and/or mental health care setting. Interpretation modes such as sight translation and consecutive interpretation as they apply to a mental health care setting are emphasized. Mental health vocabulary/terminology in both English and Spanish will also be introduced. Class is taught in English and Spanish. Prerequisites: 31-538-301; 31-538-302; 31-538-303; 31-538-304; 31-538-305

**LANG INT 31538313 Cultural Competency in a Medical Setting 1 Credits/Units**

This course provides an overview of cultural diversity as it relates to the delivery of health care services. Culture, diversity and cultural competence will be examined. Strategies to assess and evaluate the culturally diverse client will be discussed to prepare health care providers to meet the changing needs of clients. Class is taught in English. Prerequisite: 31-538-303.

**LDRSHP 20810267 Leadership As An Art 3 Credits/Units**

This course has as its central focus the development of leadership and group dynamics theory and assists the student in developing a personal philosophy of leadership, an awareness of moral and ethical responsibilities of leadership and an awareness of one's own ability and style of leadership. It provides the opportunity to develop essential leadership skills through study and observation of the application of these skills. The course encourages participants to develop their leadership behavior.

**LITTRANS 20802250 Literature in Translation 3 Credits/Units**

Each section of Literature in Translation has a subtitle that represents the course content (e.g., Latin American Literature or Modern Francophone Literature). Reading selections and course activities introduce students to important literary works associated with the region or linguistic tradition named in the section's subtitle. Course materials include translated versions of texts originally written in a language other than English. No knowledge of the original language is required for enrollment in the course.

**MACHT 10420126 Manufacturing Materials 2 Credits/Units**

Instructional units include safety, oxy-acetylene welding, brazing and cutting, shielded metal arc welding, gas metal arc welding, gas tungsten arc welding, flux cored arc welding, plasma arc cutting and conventional machining.

**MACHT 10420353 Intermediate Metrology Applications Part B 1 Credits/Units**

This course focuses on the creation of inspection routines on portable inspection arms and a Coordinate Measuring Machines (CMM) using PC DMIS software. Students will create and execute inspection plans including the use of Digital Control Center (DCC) mode and Computer Aided Design (CAD) models.

**MACHT 10420354 Advanced Metrology 3 Credits/Units**

This course extends the content covered in 32-420-352 Intermediate Metrology Applications Part B by applying geometrics and dimensioning concepts (e.g. alignments, bonus tolerance, etc.). Additional content includes in-depth applications of part approval and process capability strategies (e.g. PAPP, CpK, etc).

**MACHT 32420322 Machine Tool 1 4 Credits/Units**

Introduces the basic concepts and skills using engine lathes, power saws, Drill presses and bench applications. Emphasizes safety and proper operation of tools and machines, speeds, feeds, cutting tools, tool geometry, tool grinding and work-holding devices. Stresses dimensional accuracy, finish and quality as well as team-building and work ethics.

**MACHT 32420323 Machine Tool 2 4 Credits/Units**

Expands on basic concepts and skills using engine lathes, power saws, drill presses, bench applications, CNC setup and operation. Emphasizes safety and proper operation of tools and machines, speeds feeds, cutting tools, tool geometry, tool grinding and work-holding devices. Stresses dimensional accuracy, finish and quality with team-building and work ethics.

**MACHT 32420324 Machine Tool 3 4 Credits/Units**

Expands the concepts and skills using engine lathes, power saws, drill presses, bench applications, and advanced CNC setup and operation. Emphasizes safety and proper operation of tools and machines, speeds feeds, cutting tools, tool geometry, tool grinding and work-holding devices. Stresses dimensional accuracy, finish and quality with team-building and work ethics.

**MACHT 32420325 Machine Tool 4 4 Credits/Units**

Expands on basic concepts and skills using engine lathes, power saws, drill presses, bench applications, CNC setup and operation. Emphasizes safety and proper operation of tools and machines, speeds feeds, cutting tools, tool geometry, tool grinding and work-holding devices. Stresses dimensional accuracy, finish and quality with team-building and work ethics.

**MACHT 32420326 Machine Tool 5 4 Credits/Units**

Skills and knowledge necessary for advanced setups and procedures on milling machines, grinders, and lathes. Introduces both tool and cutter grinding and the selection and use of carbide tooling. Special emphasis is given to Electrical Discharge Machine and electrode development. CNC machining applications to complete course projects is enhanced. Safety, precision measurement and craftsmanship are stressed.

**MACHT 32420327 Machine Tool 6 5 Credits/Units**

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Provides the student with the skills and knowledge necessary for advanced setups and procedures on milling machines, grinders, and lathes. Students are also introduced both tool and cutter grinding and the selection and use of carbide tooling. Special emphasis is given to Electrical Discharge Machine and electrode development. CNC machining applications to complete course projects is also enhanced. Building a stamp die. Safety, precision measurement and craftsmanship are stressed.

**MACHT 32420328**                      **Machine Tool 7**                      **4 Credits/Units**  
Set-up and operate a CNC EDM machine, CNC machining center, and select and use superabrasives for grinding and machining. Advanced machining setups, procedures, and operations will be covered to enable students to accomplish the machining projects. Safety, precision measurement, and craftsmanship are stressed.

**MACHT 32420329**                      **Machine Tool 8**                      **5 Credits/Units**  
Set-up and operate a CNC EDM machining center, and select and use superabrasives for grinding and machining. Includes advanced machining setups, procedures, and operations to accomplish the machining of a small MUD plastic injection mold or special machining project. Safety, precision measurement, and craftsmanship are stressed.

**MACHT 32420330**                      **Metal Processes 1**                      **2 Credits/Units**  
This basic metalworking course is designed to provide the student with instruction in metalworking processes. Instructional units include safety, layout and measuring, machining, oxy-acetylene welding, brazing and cutting, arc welding and properties of metals.

**MACHT 32420336**                      **Manufacturing w/Solid Modeling 3D**                      **2 Credits/Units**  
This course builds on the concepts learned in Manufacturing w Solid Modeling--2D. Learners will utilize Solid Modeling software and CAM software to create true 3D models with surfacing concepts. Students will gain competency in file management by saving, converting, and working with different file types. Learners will create geometry in each application and convert files between CAD and CAM. Students will apply various tool paths theories to the designs they have created. Such theories include Surfacing, High Speed Machining, Hard Milling/Turning, 2 and 4 Axis Wire, Live lathe tooling and 4 Axis milling

**MACHT 32420337**                      **Manufacturing w/Solid Modeling-2D**                      **2 Credits/Units**  
This course offers instruction on individual computer workstations in a computer lab. This computer-aided drafting (CAD) instruction uses Solid Modeling software that is capable of creating 3D models and manufacturing drawings. In this course you will spend half of the time creating 3D models using 2 and 2.5D features while exploring the concepts of working in 3D space. Once the solid models are created students will import the solid models into CAM (Computer-aided manufacturing) software and utilize machining concepts to produce manufactured part using 2.5D programming methods such as pocketing, contouring & drilling for milling machines as well as turning, facing, grooving and threading for turning centers.

**MACHT 32420346**                      **Intro to CNC - G-code Programming**                      **2 Credits/Units**  
Hands-on and lecture course exposing student to Computer Numerical Control (CNC). Emphasizes CNC vertical milling machines and CNC turning centers. Covers history, basic CNC understanding and beginning programming including G-codes, M-codes. Students will utilize simulation software that will verify manually written code.

**MACHT 32420348**                      **Applied CNC-Conversational and Setup**                      **2 Credits/Units**  
This introductory Applications class familiarizes students with the basic setup procedures of CNC milling machines and CNC turning centers. They will set up rough stock and execute existing programs to produce finished parts. Once students learn these concepts they utilize the conversational programming software on the various CNC machines to program and produce parts.

**MACHT 32420349**                      **Basic Metrology (Part A)**                      **1 Credits/Units**  
This course introduces the principles of basic dimensional measurement, layout techniques for machines, use of direct and indirect measuring tools as well as the use of length standards relative to calibration of measuring instruments and the basic operation of the Coordinate Measuring Machine.

**MACHT 32420351**                      **Elements of Basic Metrology**                      **2 Credits/Units**  
This course introduces the principles of basic dimensional measurement, layout techniques for machines, use of direct and indirect measuring tools as well as the use of length standards relative to calibration of measuring instruments and the basic operation of the Coordinate Measuring Machine.

**MACHT 32420352**                      **Intermediate Metrology Applications Part A**                      **1 Credits/Units**  
Course studies precision inspection methods while utilizing optical and electronic precision measuring instruments such as the profilometer, optical comparator, microscope, laser alignment machines, the Coordinate Measuring Machine and state-of-the-art computerized vision system.

**MACHT 32420370**                      **Manufacturing w/Solid Modeling-Advanced**                      **1 Credits/Units**  
This advanced course requires students to draw complex solid models utilizing CAD software. These Models will then be imported into CAM software to use advanced programming methods to produce high quality parts. Mill Programming will include 2D, 2.5D, 3D, 4-Axis and an introduction to 5 Axis and 3+2 techniques. Lathe programming will include advanced turning and live tooling.

**MACHT 32420388**                      **Tool and Fixture Design**                      **1 Credits/Units**

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Introduces tool design and gauging. Emphasizes jigs, fixture design, clamping, locating devices and tooling and production methods. Presents preset and qualified tooling for NC/CNC as they relate to conventional practice.

**MACHT 32420389                                      Applied CNC - Intermediate Operations                                      2 Credits/Units**

This applications class builds on CNC concepts learned in previous classes. Emphasis is on CNC Turning Center, CNC Milling machine, and CNC Wire set up and operation. Students will produce parts that they have modeled and programmed in Manufacturing w/Solid Modeling 1 and 2 as well as instructor provided programs.

**MACHT 32420390                                      Fundamentals of Metallurgy                                      2 Credits/Units**

Introduces metallurgy, emphasizing applications, selection, identification methods and alloy influences. Studies metal properties using testing, micro-structure interpretation and heat-treatment processes. Covers tool steels, weld heat effects, failure analysis and machinability variations in cast iron, alloy steels and non-ferrous materials in detail.

**MACHT 32420391                                      Applied CNC - Advanced Operations                                      1 Credits/Units**

Our most advanced CNC applications course devoted to machining complex tool paths, including mold cavities and graphite electrodes. Stresses hands-on instruction and operation of CNC turning centers, vertical milling machines, machining centers.

**MACHT 32420393                                      Job Orientation - Machine Tooling Technics Program                                      1 Credits/Units**

Covers specific occupational information including personal data sheets, job interviews, resumes and recommendations. Guest speakers lecture on employment, management and industry trends.

**MACHT 32420394                                      Tool Making Theory 1                                      2 Credits/Units**

Lecture course supporting Machine Tool 5 & 6 lab activities. Major emphasis on the nomenclature, theory, construction features, design, and the technology of stamping and forming dies. Student also will spend time designing and planning a special die, mold or advanced CNC project.

**MACHT 32420395                                      Tool Making Theory 2                                      2 Credits/Units**

Lecture course supporting Machine Tool 7 & 8 lab activities. Major emphasis on nomenclature, theory, construction features, design and the technology of mold dies. The seven molding processes will be discussed. Students also will spend time designing and planning a special mold, tool, or CNC project.

**MACHT 50420710                                      Safety for Machine Tool Trade Apprentices                                      0.25 Credits/Units**

Examines safe work practices for machinists, tool and die makers and related trades. Apprentices will explore industrial safety standards; personal protective equipment; machine guards and protective devices; MSDS and chemical safety; electrical hazards, and more. Course relates 5S concepts to safe work practices and trade work processes.

**MACHT 50420711                                      Mathematics for the Machine Trades                                      1 Credits/Units**

Provides applied mathematics instruction from a review of basic arithmetic; basic algebra; applications, based on geometry; right triangle trigonometry, oblique angle trigonometry and compound angles. This course was formerly module 1 in related instruction.

**MACHT 50420712                                      Communications for Apprentices                                      Credits/Units**

Introduces the apprentice to basic communication concepts relating to the workplace. It is designed specifically for the apprentice to acquire the necessary skills of giving instructions, writing a technical memo, and explaining a technical process. Throughout the course the apprentice will brainstorm, write, edit, revise, and use one-on-one communication delivery in a small group. The course combines lecture and hands-on activities utilizing information which the apprentice brings from the workplace.

**MACHT 50420713                                      Precision Measurement for Machine Tool Trade Apprentices                                      1 Credits/Units**

Designed to acquaint the apprentice with the measurement systems and tools most frequently used in layout and machining processes. Learning outcomes relate to semi-precision through super-precision measuring tools and equipment combined with opportunities to investigate new technologies.

**MACHT 50420714                                      Engineering Drawings for Machine Tool Trades Apprentices                                      1 Credits/Units**

Acquaints the apprentice with the interpretation of engineering prints and other technical and manufacturing documentation. The primary focus will be on that part of manufacturing most closely related to machining and tooling. Background information is provided relative to the process used to create and finish the product or piece part on the prints being studied. This course was formerly module 4 in related instruction.

**MACHT 50420715                                      Mechanical Hardware & Hand Tools for Machine Trades Apprentices                                      1 Credits/Units**

Provides instruction for the apprentice in recognition, selection, and operation of mechanical hardware and hand tools. Apprentices are taught to use outside sources to select correct component or tool sizes, characteristics, and operating parameters. Apprentices will sharpen drills and single point cutting tools.

**MACHT 50420716                                      Turning Machines for Machine Trades Apprentices                                      0.5 Credits/Units**



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Acquaints the apprentice with the terminology, methods, and operations for turning machines used in the metal-working industry. Apprentices will learn to perform calculations needed to operate turning machines including speed and feed calculations. Apprentices will make calculations necessary to setup a turning machine for screw threads and taper operations.

**MACHT 50420717                                  Milling Machines for Machine Trades Apprentices                                  0.5 Credits/Units**

Related instruction on the basic principles of vertical and horizontal milling machines for the machine tool apprentice. Instruction includes safety, basic parts and functions of the machines, work holding devices, tooling requirements, and feeds and speeds.

**MACHT 50420718                                  Drilling Machines for Machine Trades Apprentices                                  0.5 Credits/Units**

Focuses on the terminology, construction, and operations of drilling machines in the metal-working industry. Be aware that in-depth information regarding cutting tools, hardware, and hand tools will be addressed in their own courses. Efforts should be made to reference information found in other courses in order to assist the apprentice in the application and assimilation of information.

**MACHT 50420719                                  Grinding Machines for Machine Trades Apprentices                                  0.5 Credits/Units**

Focuses on the terminology, construction and operations of grinding machines in the metal-working industry. Be aware that in-depth information regarding cutting tools, hardware and hand tools will be addressed in their own courses. Efforts should be made to reference information found in other courses in order to assist the apprentice in the application and assimilation of information. This course instructs apprentices in the use of traditional grinding machines and the attachments and accessories frequently encountered in manufacturing operations that use common grinding processes.

**MACHT 50420720                                  Cut-Off Machines for Machine Trades Apprentices                                  0.25 Credits/Units**

acquaint the apprentice with the basic types of  
cutoff machines used in industry, cutoff machine applications,  
cutoff machine tooling, and cutoff machine safety.

**MACHT 50420721                                  Metallurgy & Materials for Machine Trades                                  1 Credits/Units**

Provides the opportunity for the apprentice to develop the knowledge, skills, process, and understanding of hardness testing, carbons and low alloy steel, tool steels, stainless steels, cast iron, aluminum and aluminum alloys, die cast alloys, copper and copper alloys, plastics, heat treating and nondestructive testing. This course was formerly module 11 in related instruction.

**MACHT 50420723                                  Electrical Discharge Machining for Machine Tool Trade Apprentices                                  0.5 Credits/Units**

This course is designed to give the apprentice a basic understanding of the theory and process of sinker and wire EDM in toolmaking. This course uses the EDM Technical Manual distributed by POCO Graphite, Inc., which contains the most current information available in the industry. Competencies are designed for apprentices working in tool & die technologies using EDM.

**MACHT 50420724                                  CNC Programming and Planning for Machine Trades Apprentices                                  1 Credits/Units**

Introduction to CNC programming for apprentices, with a focus on CNC turning and milling centers. Apprentices will create setup sheets, develop tool lists, calculate speeds and feeds, assign tool offsets and write CNC programs.

**MACHT 50420725                                  Basic CAD/CAM for Machine Trades Apprentices                                  1 Credits/Units**

Designed to provide the apprentice with the concepts and techniques used in computer-aided design (CAD) and computer-aided manufacturing (CAM) as part of their related instruction.

**MACHT 50420726                                  Jig and Fixture Design for Machine Trades Apprentices                                  0.5 Credits/Units**

Introduces the apprentice to the concepts of jig and fixture design as part of their apprenticeship related instruction. Topics include the basic elements of tool design, jig and fixture application, and the actual design of tooling.

**MACHT 50420727                                  Geometric Design and Tolerancing for Machine Trades Apprentices                                  0.5 Credits/Units**

Acquaints the apprentice with the skills to interpret the geometric dimensions and tolerances found on engineering drawings and in other industrial documents. Instruction concentrates on interpreting the symbols, identifying tolerance zones and determining ways to check parts for conformity to the specified geometric controls. Reference is made to ASME Y14.5M - 1994.

**MACHT 50420728                                  Stamping Diemaking for Machine Tool Trade Apprentices                                  1 Credits/Units**

Introduces the apprentice to the basics of stamping and diemaking. Topics include the basic terminology, blanking, piercing, bending and related basic operations. In addition learners will discover the basics of the theory and background knowledge related to stamping and die making. This course was designed for related instruction for tool and die, stamping die and mold makers.

**MACHT 50420729                                  Mold Making for Machine Tool Trade Apprentices                                  1 Credits/Units**

Introduces the apprentice to the basic mold making process, mold construction and components, and materials. The course provides related instruction for the tool and die, stamping die and mold makers apprenticeship programs.

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**MACHT 50420730**

**Stamping Design Applications for Machine Trades Apprentices 1 Credits/Units**

This course provides the stamping die maker apprentice with the opportunity to design from part specifications two elementary stamping dies. This course provides related instruction for the tool and die, stamping die and mold makers apprenticeship.

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**MACHT 50420731**                                  **Molding Die Design Applications for Machine Tool Trade Apprentices**                                  **1 Credits/Units**

Provides the Mold Maker apprentice with their final experience in the related instruction portion of their apprenticeship. The apprentice will design a cavity mold and a core and cavity mold using either manual drafting or computer software to complete these projects. This course provides related instruction for the tool and die, stamping die and mold makers apprenticeships.

**MACHT 50420732**                                  **Machine Tool Apprenticeship Greening Competencies - SAGE Project**                                  **0.5 Credits/Units**

Competencies were designed to be included in the related instruction for the machine tool trades apprenticeships. Competencies may be introduced in this course and then reinforced in other courses that make up related instruction. For example, competencies 1, 3, 4 and 9 could be reinforced in the safety courses, and competencies 2, 5, 6, 7, and 8 could be reinforced in the various machining courses.

**MACHT 50420733**                                  **CNC Operations for Machine Tool Trades Apprentices**                                  **1 Credits/Units**

Apprentices will examine CNC related operations and safety. Course competencies include classifying types of equipment, comparing CNC tooling, setup, and work holding operations. Additional CNC programming skill development is included in the course. CNC controls and communications are explored as well.

**MASST 31509301**                                  **Medical Asst Admin Procedures**                                  **2 Credits/Units**

Introduces medical assistant students to office management and business, business administration, and the electronic medical record (EMR) in the medical office. Students learn to schedule appointments, perform filing, record keeping, inventory of supplies, telephone and reception duties, as well as effective communication with patients and other medical office staff.

**MASST 31509302**                                  **Human Body in Health & Disease**                                  **3 Credits/Units**

Focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize the causes, signs, and symptoms of diseases of the major body systems as well as the diagnostic procedures, usual treatment, prognosis and prevention of common diseases. Prerequisite or Corequisite: Medical Terminology, 10-501-101.

**MASST 31509303**                                  **Medical Asst Lab Procedures 1**                                  **2 Credits/Units**

Introduces medical assistant students to laboratory procedures commonly performed by medical assistants in a medical office setting. Students perform CLIA waived routine laboratory procedures commonly performed in the ambulatory care setting. Students follow laboratory safety requirements and federal regulations while performing specimen collection and processing, microbiology and urinalysis testing.

**MASST 31509304**                                  **Medical Asst Clin Procedures 1**                                  **4 Credits/Units**

Introduces medical assistant students to the clinical procedures performed in the medical office setting. Students perform basic examining room skills including screening, vital signs, patient history, minor surgery and patient preparation for routine and speciality exams in the ambulatory setting.

**MASST 31509305**                                  **Med Asst Lab Procedures 2**                                  **2 Credits/Units**

Prepares students to perform laboratory procedures commonly performed by medical assistants in the ambulatory care setting under the supervision of a physician. Students perform phlebotomy, immunology, hematology and chemistry laboratory procedures. Prerequisite: All first semester courses. Corequisite: Medical Assistant Clinical Procedures 2, 31-509-306 and Medical Assistant Practicum, 31-509-310.

**MASST 31509306**                                  **Med Asst Clin Procedures 2**                                  **3 Credits/Units**

Prepares students to perform EKG, spirometry, and administer medications including topical, oral, and injectable. Must have completed all first semester courses.

**MASST 31509307**                                  **Medical Office Insurance & Finance**                                  **2 Credits/Units**

Introduces medical assistant studies to health insurance and finance in the medical office. Students perform bookkeeping procedures, apply managed care guidelines and complete insurance claim forms. Students used medical coding and managed care terminology to perform insurance-related duties. Prerequisites: Medical Terminology, 10-501-101; Human Body in Health & Disease; 31-509-302; and computer courses.

**MASST 31509309**                                  **Medical Law, Ethics and Professionalism**                                  **2 Credits/Units**

Prepares students to display professionalism and perform within ethical and legal boundaries in the health care setting. Students maintain confidentiality, examine legal aspects of the medical record, examine legal and bioethical issues, and demonstrate awareness of diversity. Prerequisites or Corequisites: 10-501-101 and 31-509-302.

**MASST 31509310**                                  **Medical Assistant Practicum**                                  **3 Credits/Units**

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Requires medical assistant students to integrate and apply knowledge and skills from all previous medical assistant courses in actual ambulatory health care settings. Learners perform medical assistant administrative, clinical, and laboratory duties under the supervision of trained mentors to effectively transition to the role of a medical assistant. This is a supervised, unpaid, clinical experience. Prerequisites: Medical Assistant Lab Procedures 1, 31-509-303; Medical Assistant Clinical Procedures 1, 31-509-304; corequisites: Medical Assistant Lab Procedures 2, 31-509-305; Medical Assistant Clinical Procedures 2, 31-509-306.

**MATH 10804107** **College Mathematics** **3 Credits/Units**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between U.S. and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

**MATH 10804113** **College Technical Math 1A** **3 Credits/Units**

Topics include: solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; and operations in polynomials. Emphasis will be on the application of skills to technical problems.

**MATH 10804114** **College Technical Math 1B** **2 Credits/Units**

Topics include: computational geometry; right and oblique triangle trigonometry; and trigonometric functions on the unit circle. Emphasis will be on the application of skills to technical problems.

**MATH 10804115** **College Technical Math 1** **5 Credits/Units**

Topics include: solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations in polynomials. Emphasis will be on the application of skills to technical problems.

**MATH 10804116** **College Technical Math 2** **4 Credits/Units**

Topics in College Technical Mathematics 2 include: vectors; trigonometric functions and their graphs; identities; exponential and logarithmic functions and equations; radical equations; equations with rational exponents; equations of a circle; velocity; sine and cosine graphs; complex numbers in polar and rectangular form; trigonometric equations; conic sections; and analysis of statistical data. Emphasis will be on the application of skills to technical problems.

**MATH 10804123** **Math with Business Applications** **3 Credits/Units**

This course integrates algebraic concepts, proportions, percents, simple interest, compound interest, annuities, and basic statistics with business/consumer scenarios. It also applies math concepts to the purchasing/buying and selling processes.

**MATH 10804134** **Mathematical Reasoning** **3 Credits/Units**

All college students, regardless of their college major, need to be able to make reasonable decisions about fiscal, environmental, and health issues that require quantitative reasoning skills. A collaborative, activity-based approach is used in this course to explore numerical relationships, graphs, proportional relationships, algebraic reasoning, and problem solving using linear, exponential and other mathematical models. Students will develop conceptual and procedural tools that support the use of key mathematical concepts in a variety of contexts. This course is not designed for Science, Engineering, or Math students and/or others who require calculus. This course may be used as the prerequisite for Quantitative Reasoning, Principles of Geometry, General Chemistry, and/or Survey of Physics.

**MATH 10804144** **Math of Finance** **3 Credits/Units**

This course takes an algebraic approach to solving financial problems. Topics include personal finance and retirement, mathematics of retailing, mathematics of banking and lending, and statistical applications. Major emphasis is placed on solving problems involving the time value of money by using a financial calculator. The material in this course develops a sound base for subsequent courses by using an analytical approach to problem solving.

**MATH 20804200** **Principles Of Geometry** **3 Credits/Units**

This is an introductory college level course that provides a foundation in geometry necessary for the study of analytic geometry, trigonometry, or calculus. The class covers the facts of geometry, cultivates geometric intuition, and fosters the practice of deductive reasoning.

**MATH 20804201** **Intermediate Algebra** **4 Credits/Units**

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Intermediate Algebra studies the construction and resulting properties of the real number system. Students simplify and factor algebraic expressions using fundamental laws and order of operations, solve first and second degree equations and inequalities in one variable, solve exponential and logarithmic equations, graph first degree and second degree equations and inequalities in two variables, solve 2x2 and 3x3 systems of equations, simplify and solve equations involving rational expressions, and simplify and solve equations involving fractional exponents and radicals. Students are introduced to linear, quadratic, square root, absolute value, exponential, and logarithmic functions. The basic definitions of functions, relations, one-to-one functions, and inverses are discussed along with the algebra and composition of functions.

**MATH 20804202** **Intermediate Algebra Part 1** **3 Credits/Units**  
Understand the structure of the real numbers (their construction, operations and properties); solve first degree (linear) equations and inequalities in one variable; graph first degree equations and inequalities in two variables; be introduced to the concept of the function and the use of functional notation; solve systems of equations in a two-dimensional Cartesian plane; perform algebraic operations on polynomials; factor algebraic expressions; solve polynomial equations by factoring and solve applications problems that relate to all of the above. Transferability: by itself this course does not transfer; however, upon successful completion of this course and 20-804-203, Intermediate Algebra 2, four credit hours of Intermediate Algebra are available for transfer.

**MATH 20804203** **Intermediate Algebra Part 2** **3 Credits/Units**  
This course is a continuation of Intermediate Algebra 1, 20-804-202. Students expand their understanding of the structure of the real numbers (their construction, operations and properties); perform algebraic operations on rational and radical expressions; solve rational and radical equations; solve inequalities; solve absolute value equalities and inequalities; solve systems of three equations in three variables using the methods of substitution, addition (elimination), matrices and determinants; study complex numbers (their construction, operations and properties); solve second degree equations and inequalities in one variable; graph quadratic equations; solve exponential and logarithmic equations; understand and use functional notation and the arithmetic of functions; and solve application problems relative to the above topics. Transferability: upon successful completion of this course and 20-804-202, Intermediate Algebra 1, four credit hours of Intermediate Algebra are available for transfer.

**MATH 20804210** **Math for Elementary Teachers** **3 Credits/Units**  
This course will challenge students to think mathematically rather than mastering any particular mathematical facts. The focus is more on how you learn rather than on what you learn. This course is an introduction to problem solving and mathematical thinking. The focus of this course is on the process of mathematics rather than specific techniques or content. Students will engage in mathematical problem solving in a variety of contexts and learn a number of ways of approaching new problems which are broadly applicable.

**MATH 20804211** **Quantitative Reasoning** **3 Credits/Units**  
This course is intended to develop analytic reasoning and the ability to solve quantitative problems. Topics to be covered may include: construction and interpretation of graphs; descriptive statistics; geometry and spatial visualizations; math of finance; functions and modeling; probability; and logic. Appropriate use of units and dimensions, estimates, mathematical notation and available technology will be emphasized throughout the course. Note: This course satisfies Part A of the Quantitative Reasoning requirement for the UW system and is intended for students who do not plan to take any further mathematics.

**MATH 20804212** **College Algebra** **3 Credits/Units**  
This course covers skills needed for success in Calculus and many application areas at the baccalaureate level. Topics include the real and complex number systems, polynomials, exponents, radicals, solving equations and inequalities, relations and functions, systems of equations and inequalities, graphing, and conic sections.

**MATH 20804213** **Trigonometry** **3 Credits/Units**  
Trigonometry includes study of the six trigonometric functions and their inverse functions; solve right and oblique triangles; know and apply basic identities and simplify trigonometric expressions using identities; solve trigonometric equations; graphing trigonometric functions; understand and apply De Moivre's theorem and the nth-root theorem; understand and use complex numbers and polar coordinates; solve application problems that rely on trigonometry.

**MATH 20804214** **Math for Elementary Teachers 2** **3 Credits/Units**  
A second course in mathematics needed for teaching K-8. Emphasis will be on the student communication how and why standard and alternative algorithms work. Content will focus on problem solving strategies and word problems involving geometry, measurement, algebra, statistics, and probability. The courses in this sequence can be taken in any order.

**MATH 20804215** **Computer Science 1** **3 Credits/Units**  
This course is intended for students with no programming experience. Topics include basic object construction, the compiling process, general formatting requirements, primitive types, assignments, expressions, logic constructs with if blocks, loops, methods, primitive arrays, arrays of objects, text input and output, a binary search algorithm, and testing and debugging.

**MATH 20804216** **Computer Science 2** **3 Credits/Units**  
Topics covered include: inheritance, polymorphism, abstract classes, interfaces, exceptions, generics, singly-linked lists, stacks and queues via linked-lists, recursion, algorithm complexity, binary search, selection sort, insertion sort, quicksort, merge sort, binary search tree (BST) insertions, deletions, removals, in-order transversal, and heaps.

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**MATH 20804217** **Introduction to Programming in Python** **3 Credits/Units**  
This course is an introduction to computer programming in Python, with application to data analysis. It introduces computational thinking and computer programming using the Python language, along with the treatment, processing and visual communication of data. The analysis and presentation of real datasets are emphasized. No previous programming experience needed.

**MATH 20804220** **Finite Math** **3 Credits/Units**  
Finite Mathematics provides the necessary mathematical preparation for the understanding of various quantitative methods in modern management theory and the social sciences. The topics included are: sets, relations, linear functions, matrix theory, the solutions of linear systems by graphical, algebraic, Gauss-Jordan, and inverse matrix methods, linear programming by graphical and simplex methods, the mathematics of finance, counting and probability, game theory, decision theory, and other related topics.

**MATH 20804221** **Calculus Methods for Business and Social Sciences I** **5 Credits/Units**  
Calculus Methods for Business and Social Sciences I is an introduction to calculus and related topics designed primarily for pre-business and social science students. The course covers the essential concepts of differential and integral calculus for one and several variables. The topics to be covered are functions, derivatives and their applications, exponential and logarithm functions, integration and its applications, integration techniques, calculus of several variables, and differential equations.

**MATH 20804228** **Calculus w Algebra & Trigonometry 1** **5 Credits/Units**  
Designed for students of mathematics, science, and engineering who need some extra knowledge in precalculus and need a first semester calculus course. The course includes a review of the algebraic topics of absolute values, polynomials, factoring, quadratic equations, exponents and radicals, and simplification of algebraic expressions. It includes a review of the trigonometric topics of radian measure, trigonometric functions and their graphs, and trigonometric identities. The calculus topics covered include an introduction to the basic properties of limits, rate of change of functions, continuity, derivatives of algebraic and trigonometric functions, their products quotients and compositions, curve sketching, determining maxima and minima, and related rate problems.

**MATH 20804229** **Math Analysis** **5 Credits/Units**  
Mathematical Analysis is an integrated treatment of topics from college algebra and trigonometry lays a sound foundation for higher courses in mathematics. This course includes linear and quadratic functions, other polynomial functions, rational functions, radical functions, exponential and logarithmic functions, the trigonometric functions, and some analytic geometry in the plane.

**MATH 20804230** **Calculus w Algebra & Trigonometry II** **5 Credits/Units**  
This course continues the work begun in Calculus with Algebra and Trigonometry I. It is intended for students who need both extra knowledge of pre-calculus and also a first semester calculus course. The topics covered include exponential and logarithmic functions and their derivatives, inverse trigonometric functions and their derivatives, applications of derivatives, conic sections, and integration and its applications. This course, when preceded by its companion, Calculus with Algebra and Trigonometry I, is equivalent to taking both 804-229, Math Analysis and 804231, Calculus and Analytic Geometry I.

**MATH 20804231** **Calculus and Analytic Geometry 1** **5 Credits/Units**  
Calculus 1 is designed for students of mathematics, science, and engineering. This is an introduction to the basic properties of limits, rate of change of functions, continuity, derivatives of algebraic and elementary transcendental functions, their products quotients and compositions, curve sketching, finding maxima and minima, and indefinite and definite integration with applications.

**MATH 20804232** **Calculus and Analytic Geometry 2** **5 Credits/Units**  
Calculus and Analytic Geometry 2 is designed for students of mathematics, science, and engineering. Topics covered include the techniques of integration, numerical approximation of definite integrals, applications of integration and an introduction to first order differential equations, analysis of infinite sequences and series, parametric equations and derivatives of parametric curves, polar coordinates in the plane and integrals using polar coordinates, the analytic geometry of the conic sections, an introduction to vectors in two and three dimensions, scalar and vector cross products, graphs of quadratic surfaces.

**MATH 20804233** **Calculus 3** **5 Credits/Units**  
Calculus 3 is designed for students of mathematics, science, and engineering. Topics covered include differentiation of vectors, space curves and curvature, functions of more than one variable, level curves and level surfaces, limits and continuity, partial derivatives, total differential, tangent planes, the gradient operator, the directional derivative, multivariable forms of the chain rule, locating maxima, minima, and saddle points, the method of Lagrange multipliers, multiple integrals in rectangular, polar, cylindrical and spherical coordinates, transformations of multiple integrals and the Jacobian, surface area, applications of multiple integrals to geometry and mechanics, line integrals in two and three dimensions, vector fields, circulation and flux in two dimensions, Green's Theorem, the curl and divergence operators, surfaces and surface area defined parametrically, Gauss' and Stokes' Theorems, applications of vector calculus to geometry, mechanical work, fluid mechanics and electromagnetic fields, an introduction to the theory and solution of first and second order ordinary differential equations.

**MATH 20804240** **Basic Statistics** **4 Credits/Units**

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In Basic Statistics appropriate statistical techniques are studied for the systematic collection, presentation, analysis and interpretation of experimental results, including surveys and quality control. The focus is on understanding the techniques of statistical inference (confidence intervals and hypothesis testing) and interpreting results as found in articles and reports. It emphasizes the inherent uncertainty when decisions are made on the basis of sample data. Includes descriptive statistics, basic probability theory, sampling distributions and the Central Limit Theorem; the binomial, normal, Student t, chi-square, and F distributions; and techniques of 1- and 2-sample tests, linear regression, correlation, an introduction to analysis of variance and selected nonparametric procedures.

<b>MATH 20804241</b>	<b>Introduction to Engineering Statistics</b>	<b>3 Credits/Units</b>
This is an introductory course with many examples and applications chosen from the engineering disciplines and physical science. The course covers techniques for the collection, presentation, analysis and interpretation of experimental results and develops procedures to deal with the uncertainty present in making inferences and decisions based on sample data. Topics covered include descriptive statistics; probability concepts, random variables and discrete probability distributions; continuous probability and sampling distributions, the Central Limit Theorem; hypothesis tests and confidence intervals for one- and two-sample problems; one-way analysis of variance and basic ideas in experimental design; linear regression, model checking, and inference.		
<b>MATH 20804255</b>	<b>Techniques in Ordinary Differential Equations</b>	<b>3 Credits/Units</b>
This course presents techniques for solving and approximating solutions to ordinary differential equations. Topics will include solving first order differential equations, solving second-and higher-order linear differential equations, Laplace and Fourier transforms, systems of first order linear differential equations, numerical methods, and Sturm-Liouville Theory.		
<b>MATH 20804256</b>	<b>Elementary Matrix and Linear Algebra</b>	<b>3 Credits/Units</b>
This course covers the principles of linear algebra and the theory of matrices with an emphasis in understanding the fundamental concepts and being able to perform calculations. An introduction to formal, logically sound proofs of important theorems is also integrated into the course.		
<b>MATH 20804265</b>	<b>Introduction to Discrete Mathematics</b>	<b>3 Credits/Units</b>
Introduces students to discrete mathematical techniques and structures, such as logic, integers, recursion, sets, counting, probability, graphs, trees, and algorithms. The course also develops students' ability to think mathematically and write proofs. Many applications are drawn from computer science, and the course prepares computer science students for future study. The course is also suitable for majors in mathematics, math education, and engineering, as well as anyone interested in the beauty of numbers, patterns, and logical reasoning.		
<b>MATH 20804391</b>	<b>Internship 1 Math/Stats/CS (1cr)</b>	<b>1 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 32 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>MATH 20804392</b>	<b>Internship 1 Math/Stats/CS (2cr)</b>	<b>2 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 96 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>MATH 20804393</b>	<b>Internship 1 Math/Stats/CS (3cr)</b>	<b>3 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 160 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>MATH 20804394</b>	<b>Internship 2 Math/Stats/CS (1cr)</b>	<b>1 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 32 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>MATH 20804395</b>	<b>Internship 2 Math/Stats/CS (2cr)</b>	<b>2 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 96 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>MATH 20804396</b>	<b>Internship 2 Math/Stats/CS (3cr)</b>	<b>3 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 160 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>MATH 31804379</b>	<b>Vocational Math 1</b>	<b>1 Credits/Units</b>

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Vocational Mathematics 1 is a review of basic mathematics that consists of an introduction to using a scientific calculator, order of operations, fractions, decimals, use of percentage, units of measurement including the metric system, the reading of analog instruments for length measurement, and practical plane geometry.

**MATH 31804381    Machine Tool Math 1    2 Credits/Units**  
Open only for Machine Tool and Industrial Maintenance students. This course includes the study of machine tool problems involving calculations with fractions, decimals, and percentage. Includes work with the metric system, measurement conversion, geometry, trigonometry of right triangles, and use of a scientific calculator. Formulas with application to the trade are also studied.

**MATH 31804382    Machine Tool Math 2    1 Credits/Units**  
This is a continuation of Machine Tool Math 1. Consists of advanced machine tool problems whose solutions involve right and oblique triangles. Compound angles and numerical control calculations are also studied.

**MECTEC 10606100    Engineering Technology Communications    3 Credits/Units**  
Develops skills in creating engineering sketches through the application of drafting standards and procedures. Principles covered include view selection, orthographic projection, section and auxiliary views, and their utilization in working drawings. The need for engineering sketching is reinforced through a hands-on project requiring measurement, inspection and sketching of orthographic views. In addition, materials, fabrication and assembly methods related to the project will also be explored.

**MECTEC 10606101    Engineering Technology Fundamentals    2 Credits/Units**  
Introduces the student to the knowledge and skills required to function in today's engineering office environment. Engineering office format, procedures, standards, ethics and application level of engineering office related software is introduced. Students explore the engineering design process and participate in various problem solving and conflict resolution techniques. Career paths available to the Mechanical Design graduate will also be explored. Students utilize Net Meeting, video conferencing and Internet shared data.

**MECTEC 10606104    Engineering Technology Practices    3 Credits/Units**  
Focuses on the creation of complete sets of engineering detail and assembly drawings including the accompanying engineering documentation, bill of materials and the application of geometric dimensioning and tolerancing standards. Emphasis is placed on product design analysis, the engineering change process, product data management and an introduction to stress analysis and rapid prototyping. Other areas of study include: threaded fasteners, non-threaded fasteners, springs and gears. Prerequisite: 10-606-140.

**MECTEC 10606112    Tool Design Technology    3 Credits/Units**  
The fundamentals of tool design are presented to acquaint the student with the language and methods used in designing jigs and fixtures. Through the research and selection of standard tooling components, working tool design drawings are completed. Also explored are common plastic part design and tooling considerations through actual design problems. Prerequisite: 10-606-104.

**MECTEC 10606116    Machine Design    3 Credits/Units**  
The principles of statics and strength of materials are reviewed and applied to the design of machine elements in this course. Topic areas studied include calculations, labs, and software to revolving around properly selecting machine components for force-work-power, stress, repeated loading, fasteners, springs, belts, chains, gears, bearings, keys and couplings. In addition, machine design principles will be studied and applied through software applications (SolidWorks) and hands-on labs in the mechanical systems training lab (Lab Volt Lab).  
Prerequisite: 10-606-170.

**MECTEC 10606120    2-D CAD (Computer Aided Drafting)    1 Credits/Units**  
Introduces the basic capabilities of the current version of 2D CAD software as it applies to mechanical design. Emphasis is placed on basic commands and input required for their application in creating two-dimensional mechanical working drawings. Corequisites: 10-606-100 and 10-606-130.

**MECTEC 10606125    Plastics for Mechanical Design    3 Credits/Units**  
This course is an introduction to the main plastics processing industries, techniques, and commonly used polymers. Plastic processing principles will be studied and applied through learning activities designed for hands-on classroom manufacturing processing training centers. In addition, students will be provided with relevant information that will enable them to investigate the career possibilities in the plastics industry.

**MECTEC 10606130    SolidWorks 1    1 Credits/Units**  
Introduces the students to the concepts and commands of parametric solid modeling. Students create sketches and add relationships to the sketch segments, extrude the sketches to create models, and add features such as fillets, cut extrude, chamfers, holes, draft, shell, lofts and sweeps. Emphasis is placed on the design intent of the parametric solid models.

**MECTEC 10606131    SolidWorks 2    2 Credits/Units**



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This is the second course in the study of parametric solid modeling using SolidWorks as it applies to the mechanical design field. Students extract 2D documentation from the 3D models and add details to the drawings. Advanced software applications are explored including assembly modeling techniques, configurations, detail drawing generation, surfaces, multibody parts, additional work with sweeps and lofts, and preparation for the CSWA exam.

**MECTEC 10606132**                      **SolidWorks 3**                      **2 Credits/Units**  
Students are introduced to advanced modeling and design techniques for part design in sheet metal, weldments, and mold design. An introduction to the PDM interface for product data management will also be explored through collaborative drawing applications.

**MECTEC 10606140**                      **Dimensioning Practices**                      **1 Credits/Units**  
Mechanical Drafting dimensioning fundamentals are developed including conventional tolerancing practices using basic hole and shaft tolerancing methods. Standard dimensioning practices are applied on mechanical drawings in accordance with the current ASME Y14.5M standard.

**MECTEC 10606141**                      **Geometric Dimensioning & Tolerancing**                      **1 Credits/Units**  
Students are introduced to the engineering practices of geometric dimensioning and tolerancing, including an introduction to the symbols and terms, datums, material condition and boundary condition, and the common tolerances used in accordance to the current ASME Y14.5 standard. Application on mechanical drawings will be used to document the GDT requirements for a given part, then inspected in the quality lab using a CMM.

**MECTEC 10606150**                      **Rapid Prototyping**                      **2 Credits/Units**  
Students are introduced to rapid prototyping methods and the operation of various types of rapid prototyping equipment, available in the Mechanical Design Technology program's rapid prototyping center. Research and the use 3D printers including FDM, PolyJet, SLA, Composite printing technologies, and related material usage, will be explored through hands-on lab activities to develop a working prototype. Students will also be introduced to a reverse engineering scanner system and software, used for reverse engineering applications in the SolidWorks 3D modeling environment.

**MECTEC 10606155**                      **Statics And Mechanics**                      **3 Credits/Units**  
Introduces students to the basics of statics. Learners study and analyze forces and loading conditions applied to structures and mechanical devices. Areas of study include resultant and equilibrant of forces, moments, nonconcurrent-coplanar forces (trusses), concurrent-noncoplanar forces and static friction. Related engineering analysis software will be utilized throughout the course. Prerequisite: 10-804-114. Corequisite: 10-804-116.

**MECTEC 10606160**                      **Fundamentals of Manufacturing/Engineering Materials**                      **2 Credits/Units**  
An introduction to the engineering materials and their properties used in industry. Material testing methods and their relevance to design applications are studied through various lab activities. In addition, this course begins the examination of various contemporary manufacturing processes used in industry today.

**MECTEC 10606161**                      **Manufacturing Processes**                      **2 Credits/Units**  
Introduces students to computer aided design and manufacturing concepts through an integrated material removal project. Upon completing the project, students will use various measurement and inspection equipment to verify part conformance to engineering specifications. Prerequisite: 10-606-130 and 10-606-160.

**MECTEC 10606163**                      **Engineering Technology Project Management**                      **2 Credits/Units**  
An introduction to Project Management and the Product Development Process, as they relate to the Mechanical Design Technology field. In this course, students will prepare a team Design Project Plan (DPP) for a future design project to be developed in the 10606186 Engineering Technology Applications course. Prior to the completion of the DPP, students will learn about interpersonal and leadership skills in team environments, as well as elements of the design process and project management including scope, time, cost, and quality of the design project. Note: Engineering Technology Applications, 10606186, should be taken the following semester.

**MECTEC 10606164**                      **Quality Systems**                      **2 Credits/Units**  
This course is an introduction to the foundational building blocks necessary for effective understanding and application of quality principles used today. The fundamentals of quality, measurement for quality, and statistics for quality will be explored as they relate to productivity, specifications, and inspections of processes. In addition, process capability and design of experiments is also explored. Prerequisite: Dimensioning/GDT, 10-606-140.

**MECTEC 10606165**                      **Quality Engineering Fundamentals**                      **3 Credits/Units**  
This course provides an introduction to the fundamental statistical methods used for inspection and communication of inspection results. Examples include graphical tools, process control charts, statistical software, and Production Part Approval Process (PPAP).

**MECTEC 10606170**                      **Strength Of Materials**                      **3 Credits/Units**

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An analysis of the principles of strength of materials as they apply to various fasteners, welded joints, beams and shafts through practical design and analysis problems. Topics covered include simple stresses, mechanical properties of materials, center of gravity, moment of inertia, shear force and bending diagrams and beam design. Related engineering analysis software is utilized throughout the course. Prerequisite: 10-606-155.

**MECTEC 10606186                                      Engineering Technology Applications                                      3 Credits/Units**  
A comprehensive application of the Mechanical Design Technology program, in which student teams will implement the design project plan previously developed in the Manufacturing Analysis course. Implementation of the design project plan will be carried out through a 3-step concurrent engineering design process: Ideation, Refinement, and Implementation. A final presentation of the design project will be presented in a formal design project notebook, as well as through a formal team design project presentation. Pre-requisite: 10-606-163.

**MECTEC 10606188                                      Mechanical Design Technology Field Study Experience                                      1 Credits/Units**  
MDT students will be placed in a local engineering office environment, where technical skills learned throughout the MDT program will be observed and practiced in collaboration with the participating company. Students will document the time spent at the company, while being mentored by participating engineering personnel and MDT faculty. In addition, soft skills required to satisfactorily work on the job will be emphasized.

**MECTEC 10606193                                      Career Development - Mechanical Design Program                                      1 Credits/Units**  
Acquaints students with the process and the development of a plan for securing employment in the mechanical design field. Includes letters of introduction, resume design, personal data sheets, portfolio design and job interview techniques. Presentations by industry professionals in the areas of human resources, management, design and job placement will overview the industry perspective and requirements for employment in the career of mechanical design. Prerequisite: third-semester standing.

**MECTEC 10606200                                      Interpreting Engineering Drawings                                      2 Credits/Units**  
Focuses on the basic principles of engineering drawings and manufacturing processes. Through interpretation and sketching, students learn to visualize the part, section or assembly views. Students study isometric and orthographic views on a drawing. The student will also use drawings pertinent to the trades with examples in GD&T, welding, facilities, piping, sheet metal, equipment manuals, electrical symbols, and fluid power symbols.

**MECTEC 10606201                                      Interpreting Engineering Drawings Part A                                      1 Credits/Units**  
Basic principles of engineering drawings and manufacturing procedures. Through interpretation and sketching, students learn to visualize the part, section or assembly. Uses drawings pertinent to the trades with examples in Welding, Facilities, Piping and Instrumentation (P & ID's), Sheet Metal, Equipment Manuals (technical documents, installation/repair manuals), Electrical Symbols, and Fluid Power Symbols.

**MECTEC 10606202                                      Computer-Assisted Design-2D                                      2 Credits/Units**  
Learn to visualize, sketch and create 2D drawings in a wide variety of disciplines using AutoCad. The course will introduce the creation and revision drawings pertinent to the trades with examples in Welding, Facilities, Piping and Instrumentation (P & ID's), Sheet Metal, Equipment Manuals (technical documents, installation/repair manuals), Electrical, and Fluid Power Facilities and Mechanical Drawings.

**MECTEC 10606204                                      Computer-Assisted Design-3D                                      2 Credits/Units**  
Introductory study of working with simple 3D sketches and partly, creation. Strong emphasis on working with existing assemblies, and understanding component relationships. Students will work with OEM component 3D models and manipulating them into assemblies. Students will gain an understanding of drawing sets, and bill of materials.

**MEDADMIN 10160165                                      Medical Administrative Procedures                                      3 Credits/Units**  
Learn administrative skills and techniques for efficient and effective function within the electronic medical office environment. Through the use of an electronic practice management platform, practical application workflow activities include patient demographics, appointment scheduling, healthcare documentation and template use, patient billing and reimbursement, insurance claims and payments, patient statements, and financial and clinical reports. Other topics include telephone procedures, introduction to diagnostic and procedural coding, diversity in healthcare, effective business meetings, travel arrangements and itineraries, and qualities of a successful healthcare professional.

**MEDADMIN 10160166                                      Healthcare Documentation Techniques and Procedures                                      3 Credits/Units**  
Learn guidelines for accurate electronic health record documentation. Applying the Association for Healthcare Documentation Integrity standards, mastery of medical documentation rules for capitalization, measurement and quantitation, abbreviations, grammar and punctuation, reference materials, plurals and possessives, correspondence formats, and an exploration of specialty standards with an emphasis on quality healthcare documentation.

**MEDADMIN 10160177                                      Specialized Insurance Claims                                      3 Credits/Units**

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Identifies in-depth insurance knowledge following the healthcare revenue cycle. Explore healthcare law. Investigate private payers, Medicare, Medicaid, TRICARE, CHAMPVA, worker's compensation, and disability insurance. Knowledge of deductibles, coinsurance, copayments, exclusions, medical necessity, referrals, prior authorization, coordination of benefits, COBRA, Charity Care, collections, pre-existing periods, allowed amounts, malpractice, outpatient benefits, and lifetime maximums. Intermediate diagnostic, procedural, and HCPCS coding. Claims reimbursement methods, contractual allowances, fee schedules, and other rules to facilitate timely payment of claims.

**MEDADMIN 10160178** **Medical Language for the Business Professional 1** **3 Credits/Units**  
Designed to give the beginning medical business student a working knowledge of medical language and pharmacology. Explore how medical terms are formed, become familiar with the meaning of word roots, prefixes, and suffixes, and spell, define, and pronounce medical terms through understanding word components in a contextual format. Exhibit mastery in the use of medical dictionaries and reference materials and demonstrate medical language documentation and communication skills. Fundamentals are discussed in relationship to health practices by body system and by the body as a whole and includes the study of pathology, diagnostic tools, therapeutic procedures, and medical imaging. A focus on medical specialty pharmacology is also incorporated into each unit of study.

**MEDADMIN 10160179** **Medical Language for the Business Professional 2** **3 Credits/Units**  
Builds upon Medical Language for the Business Professional 1 and designed to advance the medical business student's working medical language. Explore medical terms, become familiar with the meaning of word roots, prefixes, and suffixes, and spell, define, and pronounce medical terms through understanding word components in a contextual format. Exhibit mastery in the use of medical dictionaries and reference materials and demonstrate medical language documentation and communication skills. Fundamentals are discussed as they relate to evaluation of health practices by body system and by the body as a whole and includes the study of pathology, diagnostic tools, therapeutic procedures, and medical imaging. A focus on medical specialty pharmacology is also incorporated into each unit of study.

**MEDADMIN 10160191** **Introduction to Healthcare Documentation** **2 Credits/Units**  
An introduction to practical application healthcare documentation practices. Develop a working knowledge of specialized medical report formats, speech recognition editing skills, and beginning medical transcription technical skills. Build upon medical and pharmacology knowledge, healthcare documentation techniques, proofreading, editing, and research skills, with a focus on efficient and accurate healthcare documentation.

**MEDADMIN 10160199** **Internship - Medical Administrative Specialist** **1 Credits/Units**  
Students complete a 72-hour internship in a medical office setting supervised by a cooperating employer. Students will correspond with the Instructor via video conferencing and written reports. Must be in the last semester before graduation.

**MEDREC 10530159** **Healthcare Revenue Management** **3 Credits/Units**  
Prepares learners to compare and contrast health care payers, illustrate the reimbursement cycle, and to comply with regulations related to fraud and abuse. Learners assign payment classifications with entry-level proficiency using computerized encoding and grouping software.

**MEDREC 10530162** **Foundations of HIM** **3 Credits/Units**  
Introduces learners to the healthcare delivery system, and the external forces that influence healthcare delivery. Sets an understanding for the expectations and standards related to professional ethics, confidentiality and security of health information. Differentiates the use and structure of healthcare data elements, data standards, and the relationships between them. Prepares learners to collect and maintain health data to ensure a complete and accurate health record.

**MEDREC 10530168** **Advanced ICD Coding** **3 Credits/Units**  
Requires the student to apply and expand the knowledge gained from the basic courses, ICD Diagnosis Coding & ICD Procedure Coding, to more difficult cases. The student will develop critical-thinking skills by using current references to research coding questions and issues. Computerized encoding software is utilized.

**MEDREC 10530182** **Human Disease for Health Professions** **3 Credits/Units**  
Prepares learners to interpret clinical documentation that they will encounter in a variety of healthcare settings. Emphasis is placed on understanding the common disorders and diseases of each body system to include the etiology (cause), signs and symptoms, diagnostic tests and results, and medical treatments and surgical procedures.

**MEDREC 10530184** **CPT Coding** **3 Credits/Units**  
Prepares students to assign CPT codes, supported by medical documentation with entry-level proficiency. Students apply CPT instructional notations, conventions, rules and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation.

**MEDREC 10530187** **Advanced CPT Coding** **3 Credits/Units**  
Requires the student to apply and expand the knowledge gained from the basic course, CPT Coding, to more difficult cases. The student will develop critical-thinking skills by using current references to research coding questions and issues. Computerized encoding software is utilized.

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<b>MEDREC 10530188</b>	<b>Certification &amp; Professional Development</b>	<b>2 Credits/Units</b>
This course prepares students for coding certification and includes mock coding certification exams. Students participate in professional development activities and discuss career progression opportunities.		
<b>MEDREC 10530189</b>	<b>Management of Coding Services</b>	<b>1 Credits/Units</b>
This course focuses on common coding management issues including coding quality, coding productivity, and workflow processes. Recruitment, training, and retention of coding staff is included.		
<b>MEDREC 10530197</b>	<b>ICD Diagnosis Coding</b>	<b>3 Credits/Units</b>
Prepares students to assign ICD diagnosis codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigned ICD procedure codes to case studies and actual medical record documentation.		
<b>MEDREC 10530199</b>	<b>ICD Procedure Coding</b>	<b>2 Credits/Units</b>
Prepares students to assign ICD procedure codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules and official coding guidelines when assigned ICD procedure codes to case studies and actual medical record documentation.		
<b>MILLWRGT 50423710</b>	<b>Math and Physics for MMMP Trades (C1)</b>	<b>1 Credits/Units</b>
This course examines math and physics concepts as they relate to millwrights and machine maintenance. Apprentices will develop skills related to converting fractions to decimals; using both standard and metric systems; applying basic algebra to solving problems; computing area, volume, mass, and torque; using basic trigonometry; and using math charts, tables and references in support of common work processes.		
<b>MILLWRGT 50423711</b>	<b>Print Reading for MMMP Trades (C-2)</b>	<b>1 Credits/Units</b>
This course explores reading prints commonly used by millwrights and machine maintenance workers. Course competencies include comparing the types of prints, interpreting structural drawings, identifying parts from prints, and develops apprentice sketching drawing skills.		
<b>MILLWRGT 50423712</b>	<b>Fasteners for MMMP Trades (C-3)</b>	<b>0.25 Credits/Units</b>
Course provides apprentices with a chance to compare fasteners and their uses, analyze fastener failures, and install mechanical fasteners.		
<b>MILLWRGT 50423713</b>	<b>Precision Measurements for MMMP Trades (C-4)</b>	<b>0.5 Credits/Units</b>
This course develops apprentice skills in precision measurement. Types of measuring instruments will be compared and then measuring skills using tapes, steel rules, micrometers, calipers, indicators, and gauges will be developed.		
<b>MILLWRGT 50423714</b>	<b>Rigging for MMMP Trades (C-5)</b>	<b>1 Credits/Units</b>
Apprentices will compare types of rigging equipment and their uses; determine safe loads, rig and crib loads, and move a load with cranes and hoists in this course.		
<b>MILLWRGT 50423715</b>	<b>Welding for MMMP Trades (C-6)</b>	<b>0.5 Credits/Units</b>
Course compares common welding processes and develops apprentice skills related to welding, cutting, heating and using oxy-gas. Welding with arc, MIG and TIG is included, along with common cutting and joining techniques.		
<b>MILLWRGT 50423716</b>	<b>Metallurgy for MMMP Trades (C-7)</b>	<b>0.5 Credits/Units</b>
This course develops apprentice skills regarding metallurgical concepts. Apprentices will compare various metals and their applications, apply metallurgical techniques to work processes, test metals for hardness, and examine heat treating applications.		
<b>MILLWRGT 50423717</b>	<b>Hydraulics for MMMP Trades (C-8)</b>	<b>0.75 Credits/Units</b>
This course provides instruction to apprentices concerning many aspects of inspecting, servicing, and troubleshooting hydraulic systems and components. Apprentices will learn safety related issues and be taught proper safety procedures for working with hydraulic systems and components.		
<b>MILLWRGT 50423718</b>	<b>Pneumatics &amp; Compressed Air for MMMP Trades (C-9)</b>	<b>0.75 Credits/Units</b>
This course provides instruction to apprentices concerning many aspects of inspecting, servicing, and troubleshooting pneumatic systems and components. Apprentices will learn safety related issues and be taught proper safety procedures for working with pneumatic systems and components.		
<b>MILLWRGT 50423719</b>	<b>Vacuum Systems for MMMP Trades (C-10)</b>	<b>0.75 Credits/Units</b>
Course introduces principles of vacuum systems and interpreting vacuum system schematics. Apprentices will then develop skills related to installing, repairing, replacing and applying troubleshooting principles to vacuum systems and components. Course examines preventative maintenance techniques commonly used on the job.		

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**MILLWRGT 50423720**                      **Pipefitting and Valves for MMMP Trades (C-11)**                      **0.75 Credits/Units**  
Course introduces apprentices to pipe sizes, materials and schedules, examines fittings, tubing and valves, and develops skills related to layout, installation, and maintenance.

**MILLWRGT 50423722**                      **Packings, Seals, Gaskets for MMMP Trades (C-13)**                      **0.5 Credits/Units**  
Apprentices will examine packing, seals, and gaskets and compare materials and applications. Then skills in layout, cutting, inspecting, removing, and installing these components will be developed

**MILLWRGT 50423723**                      **MSDS & Adhesives and Sealants for MMMP Trades (C-14)**                      **0.25 Credits/Units**  
Course compares adhesives and sealant types and applications. Then apprentice skills will be developed related to applying adhesives and sealants to repair applications, interpreting MSDS information, and handling hazardous materials.

**MILLWRGT 50423724**                      **Preventative and Predictive Maintenance for MMMP Trades (C-15)**                      **1 Credits/Units**

Course examines both preventative and predictive maintenance concepts as they apply to millwright work processes and machine maintenance. Apprentices will develop skills related to assessing machine conditions and faults based on both preventative and predictive maintenance.

**MILLWRGT 50423726**                      **Green Awareness for the MMMP Trades (C-17)**                      **1 Credits/Units**  
Green Awareness for the MMMP Trades examines how green projects and sustainable manufacturing initiatives relate to energy efficiency, energy consumption, waste reduction, and changing work processes for the MMMP related trades. Priorities related to cost awareness, energy efficiency, predictive and preventative maintenance, new materials, bearing maintenance, and precision laser alignment are included in this course.

**MILLWRGT 50423730**                      **Bearings for the MMMP Trades (M-1)**                      **0.75 Credits/Units**  
Apprentices will examine bearing types and applications, and compare equipment bearings. Then learners will develop skills related to bearing inspection, selections, removal, mounting, lubrication, and diagnosing bearing failures.

**MILLWRGT 50423732**                      **Pumps for the MMMP Trades (M-3)**                      **0.75 Credits/Units**  
Course compares different pump types and their applications. Apprentices will complete a field inspection of pumps and learn how to troubleshoot, remove, overhaul, install and perform preventative maintenance on pumps.

**MILLWRGT 50423733**                      **Belts, Sheaves, Pulleys, and Drives for the MMMP Trades (M-4)**                      **0.75 Credits/Units**  
Course compares different belt types and drive components. Apprentices will develop skills related to inspecting, troubleshooting, removing, selecting, and installing belt drive systems.

**MILLWRGT 50423734**                      **Gears, Gearboxes, Gear Assemblies for the MMMP (M-5)**                      **0.75 Credits/Units**  
Course compares gear types and applications. Apprentices will develop skills inspecting gear assemblies, troubleshooting gear problems, removing gears and components, and reassembling gear drive systems.

**MILLWRGT 50423735**                      **Mechanical Power Transmission for the MMMP Trades (M-6)**                      **0.75 Credits/Units**  
Course examines drive transmission systems and their applications, including roller chains. Apprentices will develop skills inspecting power transmission systems and troubleshooting mechanical drive systems.

**MILLWRGT 50423736**                      **Conveyors for the MMMP Trades (M-7)**                      **0.25 Credits/Units**  
Course examines chain, belt, and other types of conveyors and related components.

**MILLWRGT 50423737**                      **Equipment Installation for the MMMP Trades (M-8)**                      **0.75 Credits/Units**  
Apprentices will layout equipment installations, plan for moving equipment, and set and level equipment.

**MILLWRGT 50423738**                      **Sheet Metal and Structural Steel Fabrication for the MMMP Trades (M-9)**                      **0.75 Credits/Units**

Course compares types of sheet metal and tools used by the trade. Apprentices will develop skills related to fabricating sheet metal and structural steel and then erecting steel.

**MKTG 10104102**                      **Marketing Principles**                      **3 Credits/Units**  
Marketing is the creative side of the business world. The four principles of marketing (Product/Price/Place/Promotion) are the start to an examination of how marketing influences and touches all aspects of business. Detailed topics such as defining target markets/segments, consumer behavior, product development, pricing tactics/strategies, distribution (both physically and online), and creative promotion (both traditional and digital/social media) will be explored in this fast moving overview of the marketing world.

**MKTG 10104103**                      **Marketing Research**                      **3 Credits/Units**

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Businesses today need real-time, fluid, accurate information upon which to base decisions. In this class students learn how to gather marketing information from a variety of sources and how to analyze and apply that information to make better marketing and business decisions. The course focuses on a solid understanding of marketing research best practice, exploration of emerging techniques, interpretation of information, and application of discoveries to develop innovative marketing and business strategies.

**MKTG 10104104** **Selling Principles** **3 Credits/Units**  
Introductory course designed to acquaint the student to the basic principles, concepts, and theories of business and consumer selling. Special emphasis is given to developing the selling process which includes prospecting and qualifying, planning and pre-approaching, approaching the customer, the sales presentation/demonstration, handling objections, closing the sale and post-sale service and follow-up. This course will also provide the learner with an opportunity to explore careers, opportunities, and benefits of personal selling

**MKTG 10104111** **Digital Innovations** **3 Credits/Units**  
Explore cutting-edge technologies and practices used by companies to engage consumers. Topics may include Virtual Reality, Augmented Reality, Artificial Intelligence, big data, video game business models, and cryptocurrencies. Involves research, projects, and presentations.

**MKTG 10104112** **Marketing Design Strategies** **3 Credits/Units**  
This course provides participants with opportunities to explore proven theories and practices of design principles and marketing communication strategies. Participants are challenged to create powerful marketing print and digital publications by utilizing current desktop publishing and image editing technologies.

**MKTG 10104113** **Leadership Ethics in the Digital Age** **3 Credits/Units**  
Whether you are currently in a leadership position or preparing to be a leader in your professional or personal life, the ability to influence and inspire people is critical to your success. Today's marketers lead in an environment of rapid digital technology advancement, which requires critical ethical considerations. This class explores the power of self-awareness, best practices in leadership strategies, and contemporary ethical implications to develop the leader within you.

**MKTG 10104114** **Social Media Marketing** **3 Credits/Units**  
This course provides an overview of the impact of social media technologies on marketing strategies. Current social media tools/platforms and their business applications, strategy insights, creative, and ethics will be covered along with the development of a social media marketing plan.

**MKTG 10104115** **Capstone Campaign** **3 Credits/Units**  
Students will use current and relevant advertising mediums to research, design, create, and implement a multi-media campaign from scratch. Previous knowledge of advertising mediums (traditional media and digital media) is essential for this class, as is a working knowledge of available design tools. Because this a project-based class, students will be expected to work extensively outside of class time on the campaign.

**MKTG 10104125** **Advertising Principles** **3 Credits/Units**  
This class will introduce students to the concepts needed to understand the strengths and weaknesses of traditional and digital advertising. It will also introduce the terminology to measure and monitor campaign, create the assets needed (like pictures, sound, or video), explore which mediums are best for specific goals, and understand how all of these parts come together to create effective and engaging advertising.

**MKTG 10104126** **Intro to Public Relations** **3 Credits/Units**  
Public Relations is a strategic communication process that builds relationships between organizations and their publics. This course will focus on basic PR communication plans that marketers can implement to build a favorable public image. Emphasis is given to press releases (traditional and social), press kits, online reputation management and crisis communication, digital press rooms and SEO, media pitches, and social responsibility and community relations.

**MKTG 10104162** **Advanced Social and Mobile Marketing** **3 Credits/Units**  
This course will build on social media foundations learned in Social Media Marketing as students focus on how social media intersects with mobile and digital channels. We will investigate advanced social media strategies, SMS/MMS, mobile apps, geo-targeting, mobile advertising and new and emerging social and mobile platforms.

**MKTG 10104164** **Marketing Digital Design** **3 Credits/Units**  
Through extensive hands-on experience website builder sites are explored. The conceptual and practical aspects of website design are emphasized. Participants are introduced to principles and practices of Web Usability and Accessibility requirements. Participants are actively engaged in creating a website.

**MKTG 10104165** **Marketing Internship** **3 Credits/Units**

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Students are assisted in selecting a supervised work experience related to a specific area of marketing. A team consisting of the employer, the student intern and MATC instructor/advisor work together to plan the objectives of the work experience as well as evaluate the intern's performance. Available to Marketing program students only. Prior to taking this course, students must complete two full semesters of Marketing program coursework and an overall GPA of 2.0 or higher.

**MKTG 10104169**                      **Digital Marketing**                      **3 Credits/Units**  
This course is focused on developing the essential skills necessary to succeed in the digital marketing workplace. Emphasis is given to on-site and off-site search engine optimization (SEO), paid search marketing and display advertising, simple analytics, Google Reports, and email marketing strategy and content development. The Google Analytics Basic Certification is required for course completion.

**MKTG 10104180**                      **Global Marketing**                      **3 Credits/Units**  
Most businesses today have some international exposure in the form of global customers, suppliers, or other stakeholders. The global marketplace is a dynamic, complex, and diverse environment. Businesses require employees who have solid global competence to navigate this interconnected landscape. This course explores how marketing strategies, along with personal actions, are managed and adapted for success in different cultural, economic, geographic and political environments around the world.

**MKTG 10104187**                      **Global Studies Seminar**                      **3 Credits/Units**  
This unique learning and travel experience gives students the opportunity to enhance their understanding of the global marketplace. Upon completion of the course and travel students will be familiar with the history, culture, social and business issues of the host country. Students will examine current trends and business practices relating to (but not limited to) management, marketing, hospitality and global strategies. Participation in this course requires travel to the host country. This experience is designed to help students develop a lifelong global mindset and to enhance abilities to communicate, work on international teams and think creatively.

**MKTG 10104188**                      **Marketing Portfolio**                      **1 Credits/Units**  
E-portfolios are essential for today's job hunting marketplace. This course will help you to organize the marketing projects you have worked on throughout the program into an e-portfolio format. Additionally you will add other collateral materials to your portfolio including a resume that includes e-screening words for marketing, professional reference page and cover letter, and e-tabs within your portfolio. Your project collection on a thumb drive or your student drive will assist you with your portfolio preparation. Must be taken in final semester of Marketing program or by obtaining Consent of Instructor.

**MKTG 10104336**                      **Digital Strategic Planning**                      **3 Credits/Units**  
This course provides the core elements of your future digital marketing plan. Review how to develop key marketing objectives including digital support tools and timelines to help you get measurable results. Understand how the right digital components can maximize audience engagement, customer value, and your brand voice. The capstone project will bring concepts together for implementation in your career area.

**MKTG 10104337**                      **Content Marketing**                      **3 Credits/Units**  
Many marketers post content hoping it will engage their target audience. What really makes your target audience tick? Learn how to create content to drive engagement, and the mastery of distribution of your content to yield proven results. Develop content for each phase of your customer journey to help take your digital strategy to the next level.

**MKTG 10104338**                      **Digital Analytics**                      **3 Credits/Units**  
Is your digital marketing strategy working? Which half of your digital marketing is work? Learn how to leverage data to ensure results including how to measure and optimize social media, digital advertising, and SEO. Understand the value of audience building and research, social listening and optimization, and how to maximize audience engagement. In addition, we will show you how to dive deep into your digital marketing results and determine your ROI.

**MKTG 10104802**                      **Honors - Marketing**                      **2 Credits/Units**  
Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at <https://madisoncollege.edu/honors>.

**MTLFAB 10457100**                      **Metal Repair Techniques**                      **2 Credits/Units**  
This course covers safety, layout and measurement, grinding, drill press, lathe operation, filing, threading, properties of metals, oxy-acetylene welding, brazing and cutting, and SMAW, GMAW and FCAW.

**MTLFAB 31457301**                      **Fabrication 1**                      **2 Credits/Units**  
In Fabrication 1 students will be introduced to the fundamentals of metal cutting and forming. Students will create assemblies from industrial drawings conforming to industry standards. Emphasis will be placed on the safety, basic layout techniques, bending calculations, and operation of manual and mechanical cutting/forming equipment.

**MTLFAB 31457302**                      **Fabrication 2**                      **2 Credits/Units**

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In Fabrication 2 students will translate the competencies established in Fabrication 1 to programmable forming equipment. Students will create assemblies from industrial drawings conforming to industry standards. Emphasis will be placed on safe operation procedures, the selection of tooling, and calculations required to properly operate programmable forming equipment.

**MTLFAB 31457303                                      Fabrication 3                                      2 Credits/Units**

Fabrication 3 builds upon the competencies established in the prior Fabrication courses. Students will create assemblies from industrial drawings conforming to industry standards. Emphasis will expand upon operational safety, tooling types and selection, multiple types and combinations of bending, as well as assembly techniques.

**MTLFAB 31457304                                      Fabrication 4                                      2 Credits/Units**

The Fabrication Capstone course utilizes all the program competencies learned and combines them into final projects. Students will choose from established projects and create material lists, operational procedures, fabricate components, assemble, join, and finish. All assemblies must be inspected per industry standards.

**MTLFAB 31457305                                      CNC Operation                                      2 Credits/Units**

The CNC Operation course will develop student's ability to operate Computerized Numerical Control cutting equipment. Students will be trained in safety, program selection, operational procedures, editing and the basic maintenance of the equipment. Students will be introduced to programming methods applicable to each OEM manufacturer.

**MTLFAB 31457306                                      CNC Programming                                      2 Credits/Units**

The CNC programming class students will develop ability to generate component programs utilizing computer software. Students will generate shape geometry, create parts, develop nests and cut parts.

**MTLFAB 31457307                                      Jig and Fixture Development                                      2 Credits/Units**

Students will develop the concepts of design and building simple to intermediate jigs and assembly fixtures. Students will use computer software and metal fabrication equipment to build jig and fixtures for projects used in the class.

**MTLFAB 31457308                                      Metal Fabrication Occupational Development                                      1 Credits/Units**

Applications of metal fabrication terminology, use of forms, contracting, professional ethics and employment relations are studied. Specific topics germane to the metal fabrication field in decision-making, responsibility and preparation for the metal fabrication career are covered.

**MUSIC 20805202                                      Choir 1                                      1 Credits/Units**

Choir 1 allows the opportunity to apply existing knowledge of vocal performance technique within a full choir. Addresses musical performance skills through weekly rehearsal of choral music composed in the 18th through 21st centuries. Two public performances occur outside regular rehearsal time. Offered fall semester and open to all vocalists. No audition necessary.

**MUSIC 20805203                                      Choir 2                                      1 Credits/Units**

Choir 2 is open to all vocalists interested in singing in a full choir. The course has an emphasis on modern music from diverse cultures and various musical genres. Two public performances occur outside regular rehearsal time. Offered spring semester and open to all vocalists. No audition necessary.

**MUSIC 20805205                                      Class Voice                                      1 Credits/Units**

Class Voice is a fundamental course in singing which includes principles of voice production, anatomy of the larynx, breathing for singing, tone placement, resonance, articulation, and song interpretation. Open to all college students.

**MUSIC 20805207                                      World Music                                      3 Credits/Units**

This course is designed to give students a broad overview of various musics from around the world. Over the course of the semester, students will learn how various societies view, perform, use, and disseminate music and gain respect for these musics through deeper understanding of their materials, processes, and values within their respective cultures. Our goal is to develop acute listening skills in order to identify the geographic origin of musical examples and associate appropriate cultural values with them. As a class, students will explore music from Sub-Saharan Africa, Indigenous American cultures, Latin America, South Asia, East Asia, Southeast Asia, and others. In addition, students will choose an additional music-culture to research individually.

**MUSIC 20805211                                      Orchestra 1                                      1 Credits/Units**

Students will apply existing knowledge of performance technique on an individual instrument within a full orchestra. This course addresses musical performance skills through weekly rehearsals of orchestral music composed in the 18th through 20th centuries. Two public performances will occur outside the regular rehearsal time each semester. Open to all string players. Open to winds, brass, and percussion by audition.

**MUSIC 20805212                                      Orchestra 2                                      1 Credits/Units**

Students will apply existing knowledge of performance technique on an individual instrument within a full orchestra. This course addresses musical performance skills through weekly rehearsals of orchestral music composed in the 18th, 19th, and 20th centuries. Two public performances will occur outside the regular rehearsal time each semester. Open to all string players. Open to winds, brass, and percussion by audition.



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**MUSIC 20805216**                      **Concert Band 1**                      **1 Credits/Units**  
Students will apply existing knowledge of performance technique on an individual instrument within a full concert band. Students will develop ensemble

performance skills for woodwind, brass, and percussion instruments. Musical repertoire ranges from original compositions for wind band to transcriptions and arrangements of popular music spanning several centuries. Two to three public performances will take place outside the regular rehearsal time each semester. Open to all winds, brass, and percussion following a seating placement audition with the conductor.

**MUSIC 20805217**                      **Concert Band 2**                      **1 Credits/Units**  
Students will apply existing knowledge of performance technique on an individual instrument within a full concert band. Students will develop ensemble advanced performance skills for woodwind, brass, and percussion instruments. Advanced-level musical repertoire ranges from original compositions for wind band to transcriptions and arrangements of popular music from the 20th and 21st centuries. Two to three public performances will take place outside the regular rehearsal time each semester. Open to all winds, brass, and percussion following a seating placement audition with the

conductor.

**MUSIC 20805219**                      **Jazz Ensemble 1**                      **1 Credits/Units**  
Students will apply existing knowledge of performance technique on an individual instrument within a standard jazz ensemble. Students in this course will rehearse and perform music in a variety of jazz styles from the 20th and 21st centuries while developing ensemble performance and solo improvisational skills. Several performances occur outside the regular rehearsal time by arrangement with the director. Open to jazz instrumentalists with permission of the director.

**MUSIC 20805220**                      **Jazz Ensemble 2**                      **1 Credits/Units**  
Students will apply existing knowledge of performance technique on an individual instrument within a standard jazz ensemble. Students in this course will rehearse and perform music in a variety of jazz styles from the 20th and 21st centuries while developing ensemble performance and solo improvisational skills. Several performances occur outside the regular rehearsal time by arrangement with the director. Open to jazz instrumentalists with permission of the director.

**MUSIC 20805221**                      **Class Piano 1**                      **1 Credits/Units**  
Students will be introduced to piano technique and musical notation for piano. Students will then apply these skills to elementary-level performance of music from a variety of genres and styles. Performance of fully notated music, improvised harmonization of melodies in major keys, and melodic improvisation based on written harmonic progressions will be explored at a beginning level.

**MUSIC 20805222**                      **Class Piano 2**                      **1 Credits/Units**  
Students will build on foundations of piano technique and note-reading skills and apply them to intermediate-level performance of music from a variety of genres and styles. Performance of fully notated music, improvised harmonization of melodies in minor keys, and melodic improvisation in both major and minor keys will be explored at an intermediate level.

**MUSIC 20805227**                      **Music Appreciation**                      **3 Credits/Units**  
Through an examination of select contemporary musical styles and a survey of the development of Western art music, students will learn how to actively listen to music and identify salient traits. Students will explore musical meaning, musical reception, and musical aesthetics as they apply to different cultures and different time periods. Attendance at two live musical performances outside the classroom is required.

**MUSIC 20805260**                      **Music Theory Fundamentals**                      **3 Credits/Units**  
Music Theory Fundamentals serves as an introduction to Western musical notation and aural skills. Through a systematic study of musical vocabulary, rhythm, melody, and harmony, students will acquire the skills necessary in order to visually recognize, aurally identify, transcribe, analyze and compose music according to standards of Western notation. This course may also serve as preparation for Theory 1 (20-805-261) and Aural Skills 1 (20-805-267). Open to all students.

**MUSIC 20805261**                      **Music Theory 1**                      **3 Credits/Units**  
Through a study of melodic and harmonic compositional language, students will analyze and compose music in the style of the common practice period. Students complete a final composition project exhibiting principles of voice leading. Requires literacy in Western musical notation, understanding of keys, and major and minor scales. Students must also register for Aural Skills 1 (20805267).

**MUSIC 20805262**                      **Music Theory 2**                      **3 Credits/Units**  
This course further develops the content of Music Theory 1 by expanding diatonic harmonic structures to include seventh chords and non-diatonic harmonies. Students will analyze music featuring tonal modulation. Students will also analyze musical forms employing both micro- and macro-level terminology. Theoretical skills will be applied to practical keyboard exercises. Completion of a final composition project in homophonic texture and in the prevailing style of the common practice period is required.

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<b>MUSIC 20805263</b>	<b>Jazz History</b>	<b>3 Credits/Units</b>
This course provides an introductory survey of major jazz performers, styles, and compositions in the 20th and 21st centuries. Students will examine musical developments in the genre of jazz as they relate to major historical events, social movements, and cultural trends in the United States. Students will examine historical recordings to develop listening skills and distinguish specific characteristics among a variety of jazz styles. Attendance at two live performances separate from regular class meetings is required.		
<b>MUSIC 20805267</b>	<b>Aural Skills 1</b>	<b>1 Credits/Units</b>
Students will apply music reading and analytical skills learned in co-requisite Music Theory 1 to the performance and transcription of rhythm, melody and harmony. Students will sing simple melodies and rhythms alone and in ensemble, sing harmonies in ensemble, and notate comparable melodies, rhythms and harmonic progressions through aural recognition. Co-requisite: 20-805-261.		
<b>MUSIC 20805268</b>	<b>Aural Skills 2</b>	<b>1 Credits/Units</b>
Students will apply music reading and analytical skills learned in co-requisite Music Theory 2 to the performance and transcription of rhythm, melody and harmony. Students will sing intermediate tonal melodies and perform multi-part rhythms alone and in ensemble, sing harmonies in ensemble, and notate comparable melodies, rhythms and harmonic progressions through aural recognition.		
<b>MUSIC 20805270</b>	<b>Chorale 1</b>	<b>1 Credits/Units</b>
Madison College Chorale 1 is a mixed chamber chorus open to those who enjoy singing. It focuses on music of diverse cultures and spans various musical genres. Madison College Chorale 1 provides an opportunity to participate in learning and performing choral music. Offered in the fall semester and open to all singers. No audition necessary.		
<b>MUSIC 20805271</b>	<b>Chorale 2</b>	<b>1 Credits/Units</b>
Madison College Chorale 2 is open to all singers interested in singing in a mixed chamber choir. The ensemble rehearses twice a week focusing on music rehearsal skills, stage presence and performance skills. Provides an opportunity to participate in learning and performing accompanied and a cappella choral music. Offered in the spring semester. No audition necessary.		
<b>MUSIC 20805278</b>	<b>Hist Pop/Rock Music</b>	<b>3 Credits/Units</b>
History of Popular & Rock Music explores the history of popular and rock music in the United States from 1954 to the present, focusing on significant music genres, important artists/bands, the role of identity in music, and social history. The course intends to promote creative and critical thinking by emphasizing music literature, form and style analysis, and social and cultural criticism. Through our discourse, we will strive to connect musical and social histories by situating popular works/performances within the complex and volatile landscape of Western cultures throughout the last century to present day.		
<b>MUSIC 20805279</b>	<b>World Drumming Ensemble 1</b>	<b>1 Credits/Units</b>
High-energy ensemble participation focuses on world drumming techniques and styles, ensemble listening skills, and techniques for creative improvisation. Warm-up activities, dexterity exercises, traditional music, and contemporary compositions lead a public performance at the end of the		
semester. Previous drumming experience and the ability to read music are not required.		
<b>MUSIC 20805280</b>	<b>World Drumming Ensemble 2</b>	<b>1 Credits/Units</b>
The World Drumming Ensemble is a high-energy ensemble that focuses on world drumming techniques and styles, ensemble listening skills, and techniques for creative improvisation. Warm-up activities, dexterity exercises, traditional music, and contemporary compositions lead a public performance at the end of the semester.		
<b>MUSIC 20805281</b>	<b>World Drumming Ensemble 3</b>	<b>1 Credits/Units</b>
The World Drumming Ensemble is a high-energy ensemble that focuses on world drumming techniques and styles, ensemble listening skills, and techniques for creative improvisation. Warm-up activities, dexterity exercises, traditional music, and contemporary compositions lead a public performance at the end of the semester.		
<b>MUSIC 20805282</b>	<b>World Drumming Ensemble 4</b>	<b>1 Credits/Units</b>
World Drumming Ensemble is a high-energy ensemble that focuses on world drumming techniques and styles, ensemble listening skills, and techniques for creative improvisation. Warm-up activities, dexterity exercises, traditional music, and contemporary compositions lead a public performance at the end of the semester.		
<b>NATSCI 20806297</b>	<b>Independent Study - Science (1 cr)</b>	<b>1 Credits/Units</b>
Students will work independently on a science project under the supervision of an instructor. Instructor permission is required.		
<b>NATSCI 20806298</b>	<b>Independent Study - Science (2 cr)</b>	<b>2 Credits/Units</b>
Students will work independently on a science project under the supervision of an instructor. Instructor permission is required.		
<b>NATSCI 20806299</b>	<b>Independent Study - Science (3 cr)</b>	<b>3 Credits/Units</b>
Students will work independently on a science project under the supervision of an instructor. Instructor permission is required.		

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<b>NATSCI 20806391</b>	<b>Internship 1 Science/Engr (1cr)</b>	<b>1 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 32 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>NATSCI 20806392</b>	<b>Internship 1 Science/Engr (2cr)</b>	<b>2 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 96 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>NATSCI 20806393</b>	<b>Internship 1 Science/Engr (3cr)</b>	<b>3 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 160 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>NATSCI 20806394</b>	<b>Internship 2 Science/Engr (1cr)</b>	<b>1 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 32 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>NATSCI 20806395</b>	<b>Internship 2 Science/Engr (2cr)</b>	<b>2 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 96 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>NATSCI 20806396</b>	<b>Internship 2 Science/Engr (3cr)</b>	<b>3 Credits/Units</b>
Students will earn credit for exploring career interests and applying their skills and knowledge in the workplace. Students will gain workplace skills and career insights and build professional networks. Minimum of 160 hours of work required. Students must work with Career & Employment Services to secure an internship before enrolling.		
<b>NATSCI 20806807</b>	<b>Honors-Renewable Energy (2cr)</b>	<b>2 Credits/Units</b>
Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at <a href="https://madisoncollege.edu/honors">https://madisoncollege.edu/honors</a> .		
<b>NATSCI 20806907</b>	<b>Honors-Renewable Energy (3cr)</b>	<b>3 Credits/Units</b>
Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at <a href="https://madisoncollege.edu/honors">https://madisoncollege.edu/honors</a> .		
<b>NRSAD 10543101</b>	<b>Nursing Fundamentals</b>	<b>2 Credits/Units</b>
This course focuses on basic nursing concepts that the beginning nurse will need to provide care to diverse patient populations. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients with alterations in cognition, elimination, comfort, grief/loss, mobility, integument, and fluid/electrolyte balance.		
<b>NRSAD 10543102</b>	<b>Nursing Skills</b>	<b>3 Credits/Units</b>
This course focuses on development of clinical skills and physical assessment across the lifespan. Content includes mathematic calculations and conversions related to clinical skills, blood pressure assessment, aseptic technique, wound care, oxygen administration, tracheostomy care, suctioning, management of enteral tubes, basic medication administration, glucose testing, enemas, ostomy care, and catheterization. In addition, the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach.		
<b>NRSAD 10543103</b>	<b>Nursing Pharmacology</b>	<b>2 Credits/Units</b>
This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications.		
<b>NRSAD 10543104</b>	<b>Nsg: Intro Clinical Practice</b>	<b>2 Credits/Units</b>
This introductory clinical course emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation, and medication administration.		
<b>NRSAD 10543105</b>	<b>Nursing Health Alterations</b>	<b>3 Credits/Units</b>

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This course elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of clients through the lifespan, utilizing problem solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply therapeutic nursing interventions. It will also introduce concepts of leadership, team building and scope of practice.

- NRSAD 10543106** **Nursing Health Promotion** **3 Credits/Units**  
 This course will cover topics related to health promotion in the context of the family. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn, and the child. Recognizing the spectrum of healthy families we will discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices. Nutrition, exercise, stress management, empowerment, and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles and stages of development.
- NRSAD 10543107** **Nursing: Clinical Care Across Lifespan** **2 Credits/Units**  
 This clinical experience applies nursing concepts and therapeutic interventions to clients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized.
- NRSAD 10543108** **Nursing: Introduction to Clinical Care Management** **2 Credits/Units**  
 This clinical experience applies nursing concepts and therapeutic nursing interventions to groups of clients. It also provides an introduction to leadership, management and team building.
- NRSAD 10543109** **Nursing: Complex Health Alterations 1** **3 Credits/Units**  
 This class prepares the learner to expand knowledge from previous courses in caring for clients with alterations in musculoskeletal, cardiovascular, respiratory, endocrine, and hematologic systems as well as clients with fluid/electrolyte and acid-base imbalance, and alterations in comfort.
- NRSAD 10543110** **Nursing: Mental Health Community Concepts** **2 Credits/Units**  
 This class will cover topics related to the delivery of community and mental health care. Specific health needs of individuals, families and groups will be addressed. Attention will be given to diverse and at-risk populations. Mental health concepts will concentrate on adaptive/maladaptive behaviors and specific mental health disorders. Community resources will be examined in relation to specific types of support offered to racial, ethnic, economically diverse individuals and groups.
- NRSAD 10543111** **Nursing: Intermediate Clinical Practice** **3 Credits/Units**  
 This intermediate level clinical course develops the RN role when working with clients with complex health care needs. A focus of the course is developing skills needed for managing multiple clients and priorities. Using the nursing process, students will gain experience in adapting nursing practice to meet the needs of clients with diverse needs and backgrounds.
- NRSAD 10543112** **Nursing Advanced Skills** **1 Credits/Units**  
 This course focuses on the development of advanced clinical skills. Content includes advanced IV skills, blood product administration, chest tube systems, basic EKG interpretation and nasogastric/feeding tube insertion.
- NRSAD 10543113** **Nursing: Complex Health Alterations 2** **3 Credits/Units**  
 This course prepares the learner to expand knowledge and skills from previous courses in caring for clients with alterations in the immune, neuro-sensory, musculoskeletal, gastrointestinal, hepatobiliary, renal/urinary and the reproductive systems. The learner will also focus on management of care for clients with high risk perinatal conditions, high risk newborns and the ill child. Synthesis and application of previously learned concepts will be evident in the management of clients with critical/life threatening situations.
- NRSAD 10543114** **Nursing: Management and Professional Concepts** **2 Credits/Units**  
 This advanced clinical course covers nursing management and professional issues related to the role of the RN. Emphasis is placed on preparing for the RN practice.
- NRSAD 10543115** **Nursing: Advanced Clinical Practice** **3 Credits/Units**  
 This advanced clinical course requires the student to integrate concepts from all previous courses in the management of groups of clients facing complex health alterations. Students will have the opportunity to further develop critical thinking skills using the nursing process in making clinical decisions. Continuity of care through interdisciplinary collaboration is emphasized.
- NRSAD 10543116** **Nursing Clinical Transition** **2 Credits/Units**  
 This clinical experience integrates all knowledge learned in the previous courses in transitioning to the role of the graduate nurse. The course promotes relatively independent clinical decisions, delegation, and working collaboratively with others to achieve client and organizational outcomes.
- NRSAD 10543127** **Paramedic to AD Theory 1** **3 Credits/Units**  
 This course will focus on basic nursing concepts that the beginning nurse will need to provide care to diverse populations. The nursing process will be introduced as a framework for organizing care of patients with alterations in cognition, elimination, comfort, grief/loss, mobility, skin integrity, and related principles of pharmacology.

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- NRSAD 10543128** **Paramedic to AD Theory 2** **3 Credits/Units**  
This course will cover topics related to health promotion in the context of the family. Nursing care of the developing family topics including reproductive, pregnancy, labor and delivery, postpartum, and the newborn child will be covered. Patterns of adaptive and maladaptive behaviors, family dynamics, and grief and loss will be addressed utilizing mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle changes. Nutrition, exercise/stress management, and risk reduction practices are addressed. Perioperative, malignancy, and chronic illness concepts are reviewed with related pharmacology concepts.
- NRSAD 10543129** **Paramedic to AD Skills** **2 Credits/Units**  
This course focuses on development of basic skills, clinical skills, and physical assessment across the lifespan. Content includes basic supportive and hygienic cares, mathematic calculations and conversions related to clinical skills, aseptic technique, wound care, tracheostomy care and suctioning, the management of enteral tubes, medication administration, enemas, ostomy care, and physical assessment skills using a body systems approach.
- NRSAD 10543130** **Paramedic to RN Clinical** **2 Credits/Units**  
This clinical course emphasizes basic nursing skills and application of the nursing process to clients and families across the lifespan. Emphasis is placed on assessment, relationships, communication, data collection, documentation, and medication administration.
- NRSAD 10543164** **Orientation Associate Degree Nursing** **3 Credits/Units**  
Introduction to the Associate Degree Nursing Program for licensed practical nurses. Prerequisite: Admission to the ADN program and permission of the program director.
- NRSAD 10543291** **Community Cultural Health Care** **3 Credits/Units**  
This theory and clinical course promotes an understanding of diverse cultures by looking at cultures and healthcare systems through classroom activity and a supervised field experience within a host country. The field experience host country will expose students to health issues, needs, services and systems within the host country. Students will have opportunities to prepare and present health education, provide health care and share in the history and epidemiology of the identified host country. This course requires students to participate in a "Global Studies Clinical" held when the host country is approved.
- NRSAD 30543300** **Nursing Assistant** **3 Credits/Units**  
Prepares students for employment as nursing assistants. Students learn communication skills, basic nursing and personal care skills, clients' rights and care of clients with dementias. A supervised clinical experience with direct client care is a major component of the course. Upon completion, the student is eligible to take the certification for the Wisconsin Nurse Aide Registry. Enrollment Requirements: Must meet minimum age requirements listed in Class Notes, have completed Background Check, Health Screening and Reading Requirements.
- NRSAD 31543301** **Nursing Fundamentals - Practical Nursing Program** **2 Credits/Units**  
This course focuses on basic nursing concepts that the beginning nurse will need to provide care to diverse patient populations. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients with alterations in cognition, elimination, comfort, grief/loss, mobility, integument, and fluid/electrolyte balance.
- NRSAD 31543302** **Nursing Skills - Practical Nursing Program** **3 Credits/Units**  
This course focuses on development of clinical skills and physical assessment across the lifespan. Content includes mathematic calculations and conversions related to clinical skills, blood pressure assessment, aseptic technique, wound care, oxygen administration, tracheostomy care, suctioning, management of enteral tubes, basic medication administration, glucose testing, enemas, ostomy care, and catheterization. In addition the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach.
- NRSAD 31543303** **Nursing Pharmacology - Practical Nursing Program** **2 Credits/Units**  
This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications.
- NRSAD 31543304** **Nursing: Intro to Clinical Practice** **2 Credits/Units**  
This introductory clinical course emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation, and medication administration.
- NRSAD 31543305** **Nursing Health Alterations - Practical Nursing Program** **3 Credits/Units**  
This course elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of clients through the lifespan, utilizing problems solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply therapeutic nursing interventions. It will also introduce concepts of leadership, team building, and scope of practice.

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<b>NRSAD 31543306</b>	<b>Nursing Health Promotion - Practical Nursing Program</b>	<b>3 Credits/Units</b>
This course will cover topics related to health promotion in the context of the family. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn, and the child. Recognizing the spectrum of healthy families we will discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices. Nutrition, exercise, stress management, empowerment, and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles, and stages of development.		
<b>NRSAD 31543307</b>	<b>Nursing: Clinical Care Across the Lifespan</b>	<b>2 Credits/Units</b>
This Clinical experience applies nursing concepts and therapeutic interventions to clients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized.		
<b>NRSAD 31543308</b>	<b>Nursing: Intro to Clinical Care Management</b>	<b>2 Credits/Units</b>
This clinical experience applies nursing concepts and therapeutic nursing interventions to groups of clients. It also provides an introduction to leadership, management and team building.		
<b>NRSAD 31543356</b>	<b>Growth and Development</b>	<b>2 Credits/Units</b>
Studies growth and development from conception through the older adult, based on Erickson's conceptualization of the developmental process through the entire life cycle. Implications for nursing practice in caring for middle and older age individuals in a variety of settings are explored. Prerequisites: one year each of high school math and science with a grade of C or better in each course, each semester.		
<b>OPTOMET 31516301</b>	<b>Ophthalmic Pre-Testing</b>	<b>3 Credits/Units</b>
Covers the history of optometry, relationships between optometry, ophthalmology and opticianry and various paraprofessional careers in vision care. The course involves the study of and practical experience in patient pre-testing such as case history, visual acuity, color vision, pupil evaluation and depth perception as well as the specialized testing procedures such as keratometry and blood pressure.		
<b>OPTOMET 31516305</b>	<b>Basic Optical Concepts</b>	<b>3 Credits/Units</b>
Covers the properties of light and the function of a lens in vision correction. Included is a review of basic math needed in vision care and the physiological aspects of vision. This course begins the study of the neutralization and verification of spectacle lens powers, to include spherical, cylindrical and prism lenses.		
<b>OPTOMET 31516315</b>	<b>Ocular Anatomy</b>	<b>2 Credits/Units</b>
Familiarizes the optometric technician with the form and function of the human eye. The foundation of the lecture material is the anatomy of the eye, but we will discuss the physiology and function of the eye as much as possible. We will also discuss the actions and uses of diagnostic pharmaceutical agents, as their function is based on interference with normal ocular physiology. This course also covers optometric terminology as well as prescription translation.		
<b>OPTOMET 31516325</b>	<b>Optical Dispensing 1</b>	<b>3 Credits/Units</b>
Covers frame definition, parts and types of frames, measurement of frames and lenses, alignment of frames, inserting and removing lenses, introduction to dispensing of eyewear and frame repairs. This is a hybrid course that meets weekly for 2 hours classroom, 2 hours lab and 1 hour online.		
<b>OPTOMET 31516326</b>	<b>Optical Dispensing 2</b>	<b>2 Credits/Units</b>
This course assists the student in developing a mastery of the alignment and adjustment of eyewear. It also covers the various lens materials, multifocal styles and lens tints.		
<b>OPTOMET 31516327</b>	<b>Clinical Ophthalmic Procedures</b>	<b>2 Credits/Units</b>
This course prepares the technician to assist the doctor in advanced office techniques in the area of ultrasound, in-office surgical procedures, case history, scribing, instrument maintenance and repair and ophthalmic imaging. Students will also study various systemic diseases and their effect on the eye. The performance of the various skills is emphasized in the laboratory sessions.		
<b>OPTOMET 31516330</b>	<b>Contact Lenses</b>	<b>3 Credits/Units</b>
Gives the student in-depth exposure to the technical aspects of clinical contact lens practice. Lecture and laboratory experiences emphasize lens verification, patient education and evaluation.		
<b>OPTOMET 31516335</b>	<b>Ophthalmic Specialty Testing</b>	<b>3 Credits/Units</b>
Provides the student experience and knowledge in areas of special vision care procedures: subjective refraction, visual field testing, slit lamp, Goldmann and non-contact tonometry, basic concepts of orthoptics and the treatment of eye diseases including instillation of eye medications and eye patching. Patient instruction and assistance are emphasized in laboratory sessions. Prerequisites: 31-516-301, 31-516-305 and 31-516-315.		
<b>OPTOMET 31516339</b>	<b>Human Relations - Optometric Technician Program</b>	<b>1 Credits/Units</b>

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Introduces students to their personal and vocational responsibilities as an optometric technician. The development of communication skills one needs as an optometric technician are introduced. The ethical and legal responsibilities of an optometric technician are defined. Time management techniques will be presented. Basic concepts of stress and how it affects behavior, and stress management are discussed. The course also covers writing a job application letter and resume as well as interview techniques. This is a hybrid course that meets weekly for 1 hour classroom and 1 hour online.

**OPTOMET 31516340 Patient Relations/Pract Manage 2 Credits/Units**  
Provides a study of front office management techniques including telephone and appointment book management, filing, recall systems, bookkeeping and insurance claim processing. This is a hybrid course that meets weekly for 1 hour classroom and 1 hour online.

**OPTOMET 31516345 Preclinical 2 Credits/Units**  
Prepares students for clinical affiliation by having them complete vision screenings on patients from the college. Class discussions are held analyzing the results of the screening as well as the students' performance.

**OPTOMET 31516346 Preclinic A 1 Credits/Units**  
Prepares students for clinical work. Students explore their professional responsibilities of providing quality eye care. Students then participate in class discussions, explore variations of visual screenings and student responsibilities.

**OPTOMET 31516347 Preclinic B 1 Credits/Units**  
Prepares students for clinical work. Students perform screenings on patients and then participate in class discussions. Explore variations of visual screenings and student responsibilities.

**OPTOMET 31516350 Clinical Experience 3 Credits/Units**  
Students participate 40 hours per week for six weeks of assigned clinical experience in an optometric or clinic setting. The student is expected to achieve specific educational objectives determined for this experience. Prerequisite: satisfactory completion of all first-semester courses plus enrollment in second-semester courses.

**OPTOMET 31516351 Clinical Experience 2 3 Credits/Units**  
Students participate 34 hours per week for eight weeks of assigned clinical experience in an ophthalmic clinic setting. The student is expected to achieve specific educational objectives determined for this experience. Pre-requisite: satisfactory completion of all courses (first and second semester).

**OTASST 10514171 Introduction to Occupational Therapy 3 Credits/Units**  
Provides an overview of history, philosophy, ethics, and scope of occupational therapy practice. Examines legal responsibilities, professional resources, and organization. Students practice basic skills related to therapeutic relationships and determine their own suitability to a career in occupational therapy. Pre-requisites: Algebra, Chemistry and Biology. Co-Requisites: 10-514-172, 10-514-173, 20-806-206

**OTASST 10514172 Medical and Psychosocial Conditions 3 Credits/Units**  
Introduces medical and psychosocial conditions as they relate to occupational therapy practice. Topics include etiology, symptomology, treatment and contraindications. Pre-requisites: Algebra, Chemistry and Biology. Co-Requisites: 10-514-171, 10-514-173, and 20-806-206

**OTASST 10514173 Activity Analysis and Application 2 Credits/Units**  
Provides instruction in activity analysis with hands on experience in activities across the lifespan. Students apply the teaching/learning process and adhere to safety regulations. Pre-requisites: Algebra, Chemistry and Biology. Co-Requisites: 10-514-171, 10-514-172, and 20-806-206

**OTASST 10514174 OT Performance Skills 4 Credits/Units**  
Emphasis on the development of skills related to assessment and intervention in the areas of sensory, motor, cognition and communication.

**OTASST 10514175 Psychosocial Practice 3 Credits/Units**  
Examines the role of the OTA in the service delivery to individuals affected by mental health conditions. Provides opportunity for development of skills related to psychosocial assessment and interventions. Pre-requisites: 10-514-171, 10-514-172, 10-514-173 & 20-806-206. Co-requisites: 10-514-174, 10-514-176, 10-514-178

**OTASST 10514176 OT Theory and Practice 3 Credits/Units**  
Examines the theoretical foundations that guide OT practice. Apply group dynamics and demonstrate leadership skills.

**OTASST 10514178 Geriatric Practice 3 Credits/Units**  
Examines the role of the OT in the service delivery to elders in a variety of settings. Includes analysis of the impact of age-related changes and disease processes on the function of the elderly. Pre-requisites: 10-514-171, 10-514-172, 10-514-173 & 20-806-206. Co-requisites: 10-514-174, 10-514-175, 10-514-176

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<b>OTASST 10514179</b>	<b>Community Practice</b>	<b>2 Credits/Units</b>
Explores practice options and interventions for occupation-based community practice. Students articulate the unique role of occupational therapy within the community. Prerequisites: 10-514-174, 10-514-175, 10-514-176, 10-514-178. Co-requisites: 10-514-177, 10-514-182, 10-514-183, 10-514-184		
<b>OTASST 10514184</b>	<b>OTA Fieldwork 1</b>	<b>2 Credits/Units</b>
Integrate classroom theory and practice into a Fieldwork Level I experience. Provides experiences to assist in the development of communication, professional and observational skills.		
<b>OTASST 10514185</b>	<b>OT Practice and Management</b>	<b>2 Credits/Units</b>
Provides opportunities to practice clinical management skills, continuous quality improvement measurement, and administrative concepts and procedures. Students create a professional development plan.		
<b>OTASST 10514186</b>	<b>OTA Fieldwork IIA</b>	<b>5 Credits/Units</b>
Develop skills and behaviors necessary for entry-level occupational therapy assistant practice. Provides a different clinical practice setting than OTA Fieldwork IIB.		
<b>OTASST 10514187</b>	<b>OTA Fieldwork IIB</b>	<b>5 Credits/Units</b>
Develop skills and behaviors necessary for entry level occupational therapy assistant practice. Provides a different clinical practice setting than OTA Fieldwork IIA.		
<b>OTASST 10514189</b>	<b>OT Phys Rehab Practice</b>	<b>4 Credits/Units</b>
Explores interventions relative to major physical disability diagnoses seen in OT practice. Evaluation, treatment interventions, assistive technology and documentation are emphasized relative to the biomechanical, neurodevelopmental and rehabilitative approaches to practice.		
<b>OTASST 10514190</b>	<b>OT Pediatric Practice</b>	<b>4 Credits/Units</b>
Explores interventions relative to major pediatric- diagnoses seen in OT practice. Evaluation, treatment interventions, assistive technology and documentation are emphasized within the context of the child's occupations.		
<b>PARALEG 10110101</b>	<b>Introduction to Law</b>	<b>3 Credits/Units</b>
Provides students with an introduction to the American legal system, legal ethics, legal terminology, legal research and writing, and the common law of torts.		
<b>PARALEG 10110102</b>	<b>Civil Litigation I</b>	<b>3 Credits/Units</b>
Outlines the initial stages of civil litigation, including initial client contact, investigation, pleadings and motions.		
<b>PARALEG 10110103</b>	<b>Civil Litigation 2</b>	<b>3 Credits/Units</b>
Covers the civil litigation procedure during discovery, trial, and appeal.		
<b>PARALEG 10110104</b>	<b>Legal Research</b>	<b>3 Credits/Units</b>
Provides students with an application of legal research techniques, using traditional and computer-assisted resources. Involves extensive hands-on legal research exercises and document preparation exercises.		
<b>PARALEG 10110105</b>	<b>Legal Writing</b>	<b>3 Credits/Units</b>
Concentrates on the skills required for legal writing and analysis.		
<b>PARALEG 10110106</b>	<b>Family Law</b>	<b>3 Credits/Units</b>
Family Law covers the basic legal concepts in the area of family relations, particularly divorce.		
<b>PARALEG 10110107</b>	<b>Legal Aspects of Business Organizations</b>	<b>3 Credits/Units</b>
Acquaints students with legal aspects of the formation, operation, and dissolution of the five principal types of business organizations utilized in the United States.		
<b>PARALEG 10110108</b>	<b>E-Discovery and Digital Tools</b>	<b>3 Credits/Units</b>
This course provides an introduction to litigation software programs which are being used in law offices, corporations, and government law departments nationwide. Two main types of software are used for instruction: (1) case management software which is used to organize various aspects of a lawsuit including events, parties, witnesses, issues, and research; and (2) E-Discovery software utilized for document review and coding. Hypothetical litigation scenarios will be used to simulate actual pretrial E-Discovery exercises.		
<b>PARALEG 10110110</b>	<b>Real Estate Law - Paralegal</b>	<b>3 Credits/Units</b>
Includes drafting real estate descriptions, listing contracts, offers to purchase, deeds, land contracts, mortgages, foreclosure pleadings, transfer tax returns, and leases.		



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<b>PARALEG 10110114</b>	<b>Administration Of Estates - Paralegal Program</b>	<b>3 Credits/Units</b>
Basic legal concepts surrounding powers of attorney, wills, trusts, and intestacy, including probate forms and procedures as well as inheritance tax returns are covered in the Administration of Estates class.		
<b>PARALEG 10110115</b>	<b>Administrative Law</b>	<b>3 Credits/Units</b>
Administrative Law is designed to acquaint students with the process by which government agencies make and administer rules and regulations as well as how agencies adjudicate cases and controversies involving those rules.		
<b>PARALEG 10110122</b>	<b>Bankruptcy Law</b>	<b>3 Credits/Units</b>
Considers pre and post-judgment collection rights, creditor protection devices, State and Federal consumer protection laws, and Federal bankruptcy laws.		
<b>PARALEG 10110141</b>	<b>Computer Applications - Legal</b>	<b>3 Credits/Units</b>
Students develop technology skills using various law office computer applications.		
<b>PARALEG 10110142</b>	<b>Paralegal Internship</b>	<b>3 Credits/Units</b>
Students gain practical experience working in a legal environment under the supervision of an attorney or other qualified professional for a minimum of 140 hours.		
<b>PARALEG 10110144</b>	<b>Paralegal Clinic Internship</b>	<b>3 Credits/Units</b>
Students gain practical experience working in a pro bono or access to justice legal environment under the supervision of an attorney or other qualified professional for a minimum of 140 hours.		
<b>PARALEG 10110160</b>	<b>Employment Law - Paralegal</b>	<b>3 Credits/Units</b>
Employment Law covers the analysis of federal and state laws governing employment relationships, job discrimination, sexual harassment, workplace privacy, labor standards, and human resource management.		
<b>PARALEG 10110168</b>	<b>Criminal Law - Paralegal</b>	<b>3 Credits/Units</b>
Provides an introduction to substantive and procedural criminal law emphasizing the elemental analysis of criminal statutes, the drafting of prosecutorial documents, and the Constitutional rights of defendants.		
<b>PARALEG 10110171</b>	<b>Immigration Law</b>	<b>3 Credits/Units</b>
Students explore the following content areas of immigration law: interview techniques and case management; temporary visas for business, pleasure, investing, studying, and employment; family-based permanent residency; employment-based permanent residency; political asylum; refugee status; citizenship; and the appeal process.		
<b>PARALEG 10110173</b>	<b>Contract Law in a Global Economy</b>	<b>3 Credits/Units</b>
This survey course explores the common law of contracts, contracts of sale under Article 2 of the UCC, and the legal issues and risks that affect business transactions in the global marketplace.		
<b>PARALEG 10110175</b>	<b>Orientation to the Paralegal Profession</b>	<b>1 Credits/Units</b>
This course will (i) introduce students to the paralegal profession; (ii) acquaint students with the classes offered in the paralegal program; (iii) provide students with tools for success in the paralegal program and the paralegal career field; (iv) administer the required paralegal program entrance keyboarding test; and (v) advise and enroll students in their upcoming semester courses.		
<b>PARALEG 10110176</b>	<b>Career Building Techniques - Paralegal</b>	<b>2 Credits/Units</b>
This course will focus on internship and career strategies; effective portfolios, resumes and cover letter; the internship experience; interview techniques; finding an internship site including sites for students interested in receiving the Program's International Certificate; job hunting resources and alternative career paths; strategies for success in the work place; and advancing in your career; and getting your next job.		
<b>PHILOS 10809166</b>	<b>Intro to Ethics: Theory &amp; App</b>	<b>3 Credits/Units</b>
This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations.		
<b>PHILOS 20809258</b>	<b>Philosophy Through Film</b>	<b>3 Credits/Units</b>
This course is a general introduction to philosophy for students who may or may not be interested in taking any further philosophy classes. It will use the uniquely vivid and compelling medium of film to introduce students to important philosophical questions about such things as personal identity, consciousness, ethics and morality, freewill and determinism, the limits of knowledge, time travel, and the possibility of intelligent machines. Readings that explore the topics introduced through the assigned films will be drawn from a range of authors from both Western and non-Western philosophical traditions. Students' ability to think critically and creatively will be developed through the exploration of proposed answers to various philosophical questions with an emphasis on how to evaluate the reasons given in support of and in opposition to proposed answers.		

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**PHILOS 20809259** **Classics in Philosophy** **3 Credits/Units**  
This course examines influential Ancient Greek classical texts of philosophy (in translation) by such writers as Plato, Aristotle, and the Hellenistic philosophers. Examples of the texts are: Plato's Republic, Aristotle's Nicomachean Ethics, and Marcus Aurelius' Meditations. Learners will be introduced to a range of important ideas, arguments, and theories advanced by these philosophers. The emphasis of the course will be on a close, critical reading of a few texts resulting in interpreting, understanding, analyzing, and crucially evaluating the various ideas, arguments, and theories that arise from the text.

**PHILOS 20809260** **Intro Philosophy** **3 Credits/Units**  
This course introduces various fields of philosophy, philosophical methodology and the history of philosophy. Examines some philosophical issues in depth and develops the ability to think, speak and write critically about these problems that have concerned human beings for centuries.

**PHILOS 20809261** **Elementary Logic** **4 Credits/Units**  
A course in contemporary formal (symbolic) logic covering both propositional and predicate logic with identity. Students will learn to translate arguments into symbolic notation and then test validity using natural-deduction proof procedures, truth tables, truth trees, and counter examples. Fulfills the Quantitative Reasoning Part B requirement at UW-Madison, as well as the logic requirement at Edgewood College. Assumes a solid background in Algebra.

For a course focused on critical thinking and informal logic, see course #20809264, Introduction to Logic and Critical Thinking (previously called Reason in Communication), which fulfills the Quantitative Reasoning Part A requirement at UW-Madison as well as the logic requirement at Edgewood College.

**PHILOS 20809262** **Contemporary Moral Issues** **3 Credits/Units**  
This course introduces students to several different ethical theories and how they apply to contemporary moral controversies, such as the death penalty, war and terrorism, reproductive choices, immigration, environmental ethics, and free speech. This course aims at showing how many moral controversies are as much about the legitimate use of state authority as they are about moral disagreement.

**PHILOS 20809263** **East/West World View** **3 Credits/Units**  
East/West Worldviews examines worldviews and their underlying assumptions. Worldviews are sometimes rooted in philosophy, religion and myth, each characterized by its rituals and symbols. The course focuses on the religions originating in India (Hinduism and Buddhism); in East Asia (Confucianism, Taoism, Shintoism, Zen Buddhism); and in the Middle East (Judaism, Christianity, Islam). Also includes Western rationalism and the scientific view of the cosmos. It studies the ways in which philosophy and/or religion affects the concepts of nature, self, society and ultimate reality.

**PHILOS 20809264** **Introduction to Logic and Critical Thinking** **3 Credits/Units**  
An informal logic course (previously called Reason in Communication) that emphasizes critical thinking. Students will learn argument structure, different forms of inductive reasoning, how to recognize informal fallacies, and how to distinguish better and worse reasoning in the media and our everyday lives. Fulfills the Quantitative Reasoning Part A requirement at UW-Madison, as well as the logic requirement at Edgewood College.

This course includes an introduction to propositional logic, but for those students interested in a formal (symbolic) logic course, see course #20809261, Elementary Logic, which fulfills the Quantitative Reasoning Part B requirement at UW-Madison, as well as the logic requirement at Edgewood College.

**PHILOS 20809266** **Ethics In Medicine** **3 Credits/Units**  
Behavior within the healthcare system, whether as a patient or as a healthcare worker, presents challenges that differ from the typical consumer environment or the typical workplace. This course explores these differences and presents and discusses ethical issues particular to medicine. Heightens awareness and examines ways to conduct one's self within this healthcare environment.

**PHILOS 20809268** **Intro to Social and Political Philosophy** **3 Credits/Units**  
An introduction to major historical and contemporary philosophical theories about society and the prerequisites of an ethical human culture. 'Culture' includes those qualities that we tend to take for granted, such as fairness and justice, autonomy and dignity, equality and opportunity. The philosophical nature of legitimacy and limits on power and domination in a liberal society are discussed and include readings from Hobbes, Locke, Rousseau, Mill, Rawls, Nozick, Marx and Walzer. While contemporary arguments, both good and bad, about what kind of society America should be surround us daily, a discussion of the philosophical justification for such arguments is a meaningful way of understanding the competing claims about social justice.

**PHILOS 20809276** **Business Ethics** **3 Credits/Units**

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Most of us will spend a large portion of our lives immersed in the world of work. As employees and/or employers, we face decisions everyday that depend on fundamental moral assumptions about honesty, fairness, liberty and privacy. We are all likely to have different ideas about what these concepts mean, or ought to mean, and justify our actions accordingly. This course aims to help us evaluate the moral choices we make in a business setting, and to that end philosophers employ the use of argument. By careful use of argument we will critically assess not only moral choices in the workplace, but also the moral assumptions that underlie capitalism, the economic system under which most people in the world are working. The issues that arise is business affect us all in critical ways. Whether we are debating the merits of affirmative action in hiring, corporate responsibility and profits, terms of employment, conflicts of interest or whistleblowing, this course will examine our assumptions and help us reach a clearer understanding of what we ought to do and why.

### **PHILOS 20809278 Intro to Buddhism 3 Credits/Units**

Focuses on Buddhism and the diverse Asian cultures with which it engages from its Indian inception and original encounter with Hindu and Jain traditions to it's Chinese (including Japan et. al.) encounter with Daoism and Confucianism. Finally, Tibetan (including Mongolian et. al.) developments and development of Tantric tradition will be addressed along with the emergence of Buddhism in the West. This course will encompass not only intellectual but artistic, social and historical developments. Students will acquire factual knowledge through formative assessments such as on-line quizzes, peer-to-peer review and in-class debates leading to four summative assessment midterms. Students will be able to synthesize diverse data through a research project developed through an outline, paper and final documentary project.

### **PHOTO 10203105 Photo Composition 2 Credits/Units**

A survey of composition as an important tool of the photographer that helps to establish purpose and meaning to visual statements. Includes an introduction to the history of photography and the field of professional photography through the work of some noted photographers. Written and photographic assignments are required.

### **PHOTO 10203107 Studio Photography 1 3 Credits/Units**

Basic theory and practical application of the fundamentals of photography. Students will learn the basics of DSLR cameras, lenses, the light meter, digital exposure and capture, basic studio lighting with hot lights and studio equipment handling.

### **PHOTO 10203108 Studio Photography 2 3 Credits/Units**

Continuation of Studio Photography 1 with emphasis on advanced studio strobe lighting techniques, and metering and exposure for extreme scenes. Students will also learn the differences between professional digital backs and DSLR systems through hands-on experience with each format.

### **PHOTO 10203109 Studio Photography 3 3 Credits/Units**

This is an advanced level studio course offering students the opportunity to hone their skills. The course consists of 3 projects created by the instructor and 3 created by the student. Student may choose to create images that express their individual areas of interest. Images that are created in this course may be used in final portfolios.

### **PHOTO 10203120 Lighting Technique 2 Credits/Units**

Lighting Techniques is a first-semester course and provides the cornerstone for concurrent and future photography and video production courses you will take in the program. Become familiar with the characteristics and qualities of light. Acquire specific skills in hard and soft light; lighting direction; incident and reflective exposure determination; lighting for shape and texture; lighting glassware; lighting reflective subjects; basic lighting for simple portraiture; and operation of professional lighting equipment in the studio.?

### **PHOTO 10203121 Commercial Photography 3 Credits/Units**

Professional digital photography with an emphasis on the production of photographic illustration of high quality for use in advertising, promotion and print ad. It combines lectures and demonstrations along with practical experience. Students will polish their photographic skills while developing additional skills in commercial photography.

### **PHOTO 10203124 Portrait Photography 2 Credits/Units**

Theory and principles of professional digital portrait photography. Studio and environmental portraiture. Emphasis on lighting, posing and character analysis.

### **PHOTO 10203125 Business Of Photography 2 Credits/Units**

This course is designed to help students understand the basic principles of creating a photo business. Throughout the semester students will research and create their own business plans. Areas such as sales revenue forecast, marketing, overhead and capital spending plan will be explored.

### **PHOTO 10203126 Advanced Digital Studio Portrait 2 Credits/Units**

Develops advanced studio portrait skills utilizing digital capture equipment for photo output. Emphasis on special projects and cooperative shooting situations with other programs using a wide variety of tools, materials and techniques.

### **PHOTO 10203129 Professional Nature and Conservation Photography 2 Credits/Units**



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<b>PHYED 20807215</b>	<b>Walking &amp; Running for Fitness</b>	<b>1 Credits/Units</b>
Provides instruction on the fundamentals of walking and/or running as a lifelong form of exercise, recreation, leisure, and/or competition. Provides students of any fitness level with group instruction on walking/running basics in conjunction with individualized programming set up by the instructor.		
<b>PHYED 20807219</b>	<b>Introduction to Kinesiology</b>	<b>2 Credits/Units</b>
This course is intended to introduce students to the field of Kinesiology. Introductory material about physical activity and health will be provided, and departmental faculty and invited speakers will discuss their areas of expertise. In addition, career opportunities in Kinesiology will be discussed.		
<b>PHYED 20807223</b>	<b>Beginning Volleyball</b>	<b>1 Credits/Units</b>
This is an introductory course in power volleyball. It includes skills basic to the power game as well as rules and strategy for the beginner player. Fitness activities specific to volleyball will be included.		
<b>PHYED 20807245</b>	<b>Social Dance</b>	<b>1 Credits/Units</b>
Social Dance is an introductory class in contemporary ballroom dance styles including the waltz, foxtrot, swing, tango and the cha-cha.		
<b>PHYED 20807247</b>	<b>Jazz 1</b>	<b>1 Credits/Units</b>
This is an introductory course in contemporary jazz dance technique. Emphasizes the development of warm-up sequences, isolations, contractions, jazz walks, progressions, turns, combinations and improvisation		
<b>PHYED 20807248</b>	<b>Ballet</b>	<b>1 Credits/Units</b>
Ballet introduces classical ballet technique and emphasizes the acquisition of proper ballet technique, postural alignment and increased flexibility.		
<b>PHYED 20807250</b>	<b>Badminton</b>	<b>1 Credits/Units</b>
Badminton is an introductory course in competitive badminton which develops basic skills, strategy and knowledge of the rules of the game.		
<b>PHYED 20807254</b>	<b>Beginning Yoga</b>	<b>1 Credits/Units</b>
This course introduces the practice of yoga. It explores the philosophy that underlies yoga as a means of stress management, fitness and conditioning. Designed for beginners, the course teaches gentle movements, yoga poses, breathing techniques and meditations that relax both the mind and the body.		
<b>PHYED 20807255</b>	<b>Prev/Care Athletic Injuries</b>	<b>2 Credits/Units</b>
This course is designed to give an introduction to the care and prevention of athletic injuries, including emergency care, taping techniques and treatment/rehabilitation of injuries. It is also useful for students interested in the fields of athletic training, teaching or coaching.		
<b>PHYED 20807258</b>	<b>First Aid and CPR</b>	<b>2 Credits/Units</b>
This course provides students with the knowledge, analytical skills and physical skills necessary in an emergency to help sustain life, reduce pain, and minimize the consequences of injury or medical emergency.		
<b>PHYED 20807264</b>	<b>Intermediate Yoga</b>	<b>1 Credits/Units</b>
Enhances the practice of yoga. Continues the exploration and the philosophy that underlies yoga as a means of stress management, fitness and conditioning. Designed for intermediate participants, the course covers yoga poses, breathing techniques and meditations that relax both the mind and the body.		
<b>PHYED 20807266</b>	<b>Wellness Today</b>	<b>2 Credits/Units</b>
Wellness Today is a contemporary approach to the total wellness concept. It covers fitness and exercise, nutrition and stress management, culminating with personal planning toward lifetime wellness		
<b>PHYED 20807267</b>	<b>Health &amp; Fitness for Life</b>	<b>1 Credits/Units</b>
A contemporary approach to the total wellness concept. It covers fitness, nutrition and stress management, culminating with personal planning toward lifetime wellness.		
<b>PHYED 20807268</b>	<b>Blueprint for Healthy Living</b>	<b>2 Credits/Units</b>
Relax and practice manageable steps towards a healthier life during an offsite retreat in this class. Learn to incorporate balanced nutrition, stress management, yoga, meditation and more into your lifestyle. Then, travel to an offsite location and stay for three days and two nights immersed in a positive wellness environment with others.		
<b>PHYED 20807269</b>	<b>Stress Management Foundations</b>	<b>1 Credits/Units</b>

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Innovative approach to viewing stress as necessary and healthy, this course is designed to help individuals build resilience to stress. Combines interactive exercises, self reflective experiences, foundations of mindfulness based meditations, foundations of mindfulness based movements, guided imagery to improve mental focus, progressive muscle relaxation to aid deep relaxation, and specific breathing techniques to promote healthy self regulation and coping skills.

**PHYED 20807271**                      **Bicycle Conditioning**                      **1 Credits/Units**  
Provides the opportunity for the learner to develop the knowledge skills process and understanding of cardiovascular endurance and fitness through short lectures and physical conditioning on stationary fixed-gear "spinning" bikes with music as a motivator.

**PHYSICS 10806139**                      **Survey of Physics**                      **3 Credits/Units**  
This course emphasizes understanding basic physics concepts through laboratory investigation and applications. Topics include kinematics, dynamics, work, energy, power, temperature, heat, waves, electricity, magnetism, electromagnetic waves, optics, and atomic and nuclear physics.

**PHYSICS 10806143**                      **College Physics 1**                      **3 Credits/Units**  
This course presents the applications and theory of basic physics principles. This course emphasizes problem solving, laboratory investigation and applications. Topics include laboratory safety, unit conversions and analysis, kinetic, dynamics, work, energy, power, temperature and heat.

**PHYSICS 10806154**                      **General Physics 1**                      **4 Credits/Units**  
Presents the applications and theory of basic physics principles. This course emphasizes problem-solving, laboratory investigation, and applications. Topics include unit conversion and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves.

**PHYSICS 20806220**                      **Physics of Everyday Life**                      **3 Credits/Units**  
Have you ever looked at something and said to yourself "I wonder how that works?" If so, this is the course for you. Physics of Everyday Life will explore basic principles of physics including classical mechanics, fluids, heat, resonance, waves, light and electricity and magnetism through the lens of everyday objects. We will gain insight through studying objects such as bumper cars, roller coasters, light bulbs, musical instruments, and microwave ovens.

**PHYSICS 20806221**                      **University Physics 1**                      **5 Credits/Units**  
University Physics 1 is the first semester of a one-year introductory course. Students develop a conceptual understanding of the basics of physics and are provided with practical hands-on lab experience, which helps to broaden the understanding of physics. This course covers the basic properties of motion, force, energy, momentum, rotation, fluids, heat and relativity. It stresses developing good problem-solving strategies.

**PHYSICS 20806222**                      **University Physics 2**                      **5 Credits/Units**  
University Physics 2 studies thermodynamics, electricity, magnetism, sound, geometric and physical optics through lecture, demonstrations and laboratory work.

**PHYSICS 20806223**                      **University Physics 1-Calculus-Based**                      **5 Credits/Units**  
This course is intended for students of science or engineering. The course covers mechanics and heat. It consists of five one-hour lectures and one three-hour laboratory per week and is equivalent to Physics 201 at the University of Wisconsin.

**PHYSICS 20806224**                      **University Physics 2-Calculus Based**                      **5 Credits/Units**  
This course is intended for students of science or engineering, and is a continuation of 20-806-223. It covers electricity, magnetism, light and sound and is equivalent to Physics 202 at the University of Wisconsin.

**PHYSICS 20806235**                      **Modern Physics**                      **3 Credits/Units**  
Modern Physics introduces students of science or engineering to special relativity, quantum physics, the Schrodinger equation, atomic structure, statistical physics, band theory of solids, semiconductors, nuclear physics, and special topics.

**PHYSICS 20806287**                      **Special Topics: Energy Storage**                      **2 Credits/Units**  
Study of energy storage systems for the renewable energy industry. The class will examine various types of storage technology, including electrochemical storage for both the electric and transportation sectors.

**PHYSICS 20806290**                      **Renewable Energy for International Development**                      **3 Credits/Units**  
The 3 credit Renewable Energy for International Development provides an examination of energy and economics in developing countries with special consideration given to renewable energy sources. The course combines 8 weeks of online instruction with 10 days of travel and study abroad in Costa Rica. Students will learn to specify, design, and install renewable energy systems for the developing world. Students will install operational renewable energy systems in the field with current renewable energy equipment. An alternate 1 credit course is also offered for transfer credit as 10-140-112, (Renewable Energy for the Developing World) that does not include the 8 weeks of online instruction.

**PHYSICS 20806291**                      **Introduction to Renewable Energy**                      **3 Credits/Units**



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This course is designed to provide the apprentice with the skills to identify and design sanitary vent piping in a plumbing system in accordance with the Wisconsin Plumbing Code. The course focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations.

**PLUMBNG 50427753**                      **Water Distribution 1**                      **2 Credits/Units**  
Provides the apprentice with the skills to identify, design, install, and service various applications for water supply systems listed in plumbing codes. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. Topics will include commercial to single-family and private well pump systems. Focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations. Plumbing Apprentice students only.

**PLUMBNG 50427754**                      **Water Distribution 2**                      **2 Credits/Units**  
Provides the apprentice with the skills to identify, design, install, and service cross connection controls, water treatment equipment and multi-purpose piping systems in various plumbing systems in accordance with the Wisconsin Plumbing Code. Focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations.

**PLUMBNG 50427755**                      **Sanitary Drains 2**                      **2 Credits/Units**  
Provides the apprentice with the skills to identify, design, install, and service various applications for storm water, clear water, and drainage systems. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. The course focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations.

**PLUMBNG 50427756**                      **Private On-Site Wastewater Treatment Systems (POWTS)**                      **2 Credits/Units**  
Provides the apprentice with the skills to identify, design, install, and service various applications for private on-site wastewater treatment systems that are listed in plumbing codes or individual component manuals. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. Other topics will include pretreatment, soil evaluation, site planning, and new technologies. Focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations.

**PLUMBNG 50427757**                      **Green Plumbing Applications**                      **2 Credits/Units**  
Provides Plumbing apprentices with an introduction to green applications and prepares students to take certification exams: Union Programs: UA Green Awareness Certification (geared toward journey workers, not apprenticeship) WTCS Programs: Green Plumbers USA Certification Program Learning materials from both certificate programs have been incorporated.

**PLUMBNG 50427758**                      **Plumbing Advanced Topics/TSA**                      **2 Credits/Units**  
Provides the apprentice with the opportunity to select and complete an applied plumbing project in collaboration with the instructor. Projects will apply the skills required to identify, design, install, and service various plumbing applications that are listed in plumbing codes. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. The course builds upon the theory, work experience, and the application of plumbing code principles addressed in previous coursework to support completing an applied hands-on project.

**POLISCI 10809122**                      **Intro to Amer Government**                      **3 Credits/Units**  
Introduction to American Government focuses on the structure and functioning of state and local governments within the context of federalism. It emphasizes decision making, structure, theory, behavioral characteristics and citizen participation.

**POLISCI 20809218**                      **Law and Society**                      **3 Credits/Units**  
Law and Society deals with the nature of law and legal processes as instruments of social control. Students are introduced to legal structures and processes, and examine the philosophy of law within political, social and economic frameworks.

**POLISCI 20809220**                      **American Foreign Policy**                      **3 Credits/Units**  
American Foreign Policy addresses conduct of the U.S. as an international actor. It covers problems, challenges and persistent patterns in American policy since the close of World War II. How foreign policy is made is included and attention is given to the interactions of individuals, groups, roles and organizations.

**POLISCI 20809221**                      **American Ntl Govt**                      **3 Credits/Units**  
American National Government utilizes a systems approach to emphasize the relationships between structure and behavior. Political theory and methodology are stressed. Students are encouraged to improve research and analytical skills. The course includes the U.S. Constitution, elections, interest groups, parties, mass media, congress, judiciary, the presidency and bureaucracy.

**POLISCI 20809222**                      **State and Local Government**                      **3 Credits/Units**  
State and Local Government addresses the functioning of state and local governments and relates them and their activities to the federal government. Behavioral characteristics of state and local governments in the total decision-making process are stressed. Discussion covers the importance and functioning of political parties, special interest groups, elections, legislatures, courts and executives.



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<b>POLISCI 20809223</b>	<b>International Relations</b>	<b>3 Credits/Units</b>
International Relations covers methods employed by nation-states in interacting with each other and the forces influencing the nature of interaction. Includes institutions that have been erected in nation-states' quest for power, peace and security. It emphasizes nationalism, ideology, regional integration and trade.		
<b>POLISCI 20809227</b>	<b>Political Theory</b>	<b>3 Credits/Units</b>
Political Theory is a subcategory within the broader social science discipline of Political Science. This course examines core political thinkers, concepts, and ideologies necessary to study and understand various political phenomena and critical interactions. This course presents fundamental knowledge and basic skill / ability training to research and discuss important political phenomena.		
<b>POLISCI 20809242</b>	<b>Public Policy</b>	<b>3 Credits/Units</b>
Public Policy is a subcategory within the discipline of Political Science. This course examines the public policy process in the United States using "project-based learning" methodology. Public policy is what elected officials and citizens do when government intervention is necessary to resolve a public problem. Upon completion of this course, students will be able to do the following: (a) Summarize the public policy-making process; (b) Analyze the costs and benefits of proposed public policy, and (c) Evaluate the success and failure of implemented public policy.		
<b>POLISCI 20809243</b>	<b>Comparative Politics</b>	<b>3 Credits/Units</b>
This course teaches students how to use comparative methodology to analyze and evaluate various political institutions. Students enrolled in this course will (a) use "most-similar" and "most-different" approaches to study political phenomena within a global context and (b) develop "core abilities" such as critical thinking abilities and communication skills.		
<b>POLISCI 20809244</b>	<b>Russian Politics</b>	<b>3 Credits/Units</b>
This undergraduate course advances student knowledge, understanding, and appreciation of the Russian political system using a multidisciplinary approach. In this course students use "worlds systems theory" and "comparative methodology" to (a) "review" relevant political system history, (b) "summarize" important informal & formal institutions, (c) "analyze" critical political system variables, and (d) "evaluate" political system variables within a globalizing international environment.		
<b>POLISCI 20809245</b>	<b>Latin American Politics</b>	<b>3 Credits/Units</b>
Gender and Politics covers topics such as feminism, intersectionality, political participation and representation, and social movements. Students in this course will analyze, evaluate, and compare the effects of strategies to enhance gender equality, and women's political participation and representation, across state, national, and international institutions.		
<b>POLISCI 20809246</b>	<b>African Politics</b>	<b>3 Credits/Units</b>
This undergraduate course advances student knowledge, understanding, and appreciation of the African political system using an interdisciplinary approach (i.e., social sciences and humanities). In this course students use worlds systems theory and comparative methodology to (a) review relevant political system history, (b) summarize important informal & formal institutions, (c) analyze critical political system variables, and (d) evaluate political system variables within a globalizing international environment.		
<b>POLISCI 20809247</b>	<b>East Asian Politics</b>	<b>3 Credits/Units</b>
undergraduate course advances student knowledge, understanding, and appreciation of the Asian political system using an interdisciplinary approach (i.e., social sciences and humanities). In this course students use worlds systems theory and comparative methodology to (a) review relevant political system history, (b) summarize important informal & formal institutions, (c) analyze critical political system variables, and (d) evaluate political system variables within a globalizing international environment.		
<b>POLISCI 20809248</b>	<b>Politics of India</b>	<b>3 Credits/Units</b>
This course examines the Political system of India by summarizing, analyzing, and evaluating its formal/informal political institutions. This course provides each student with fundamental knowledge and basic skill/ability training to engage in meaningful Global Studies.		
<b>PSYCH 10809188</b>	<b>Developmental Psychology</b>	<b>3 Credits/Units</b>
Developmental Psychology is the study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills will enable students to gain an increased knowledge and understanding of themselves and others.		
<b>PSYCH 10809199</b>	<b>Psychology Of Human Relations</b>	<b>3 Credits/Units</b>
This course explores the relationship between general psychological principles and our everyday lives. Students are given the opportunity to achieve a deepened sense of awareness of themselves and others. This understanding is applied to human relations at home and on the job.		
<b>PSYCH 20809201</b>	<b>Human Sexuality</b>	<b>3 Credits/Units</b>

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Human Sexuality covers how intimate relationships develop, how to maintain warmth and closeness in relationships and how sexuality is expressed throughout the life cycle. Also covers practical information regarding sexually transmitted diseases, contraception and pregnancy.

**PSYCH 20809210**                      **Psychology of Men**                      **3 Credits/Units**  
Psychology of Men examines and analyzes ways biology, culture and society shape identity and life experiences of the American male. Included in the course are historical views, socialization, manliness, competitiveness and sports, violence and war, work and success, sexuality, health, relations with other men, women and children, and alternatives for men.

**PSYCH 20809225**                      **Social Psychology**                      **3 Credits/Units**  
Social Psychology is the study of the individual in the social setting. Topics include interpersonal attraction, aggression, sex roles, attribution, altruism, obedience, conformity, attitude change and others.

**PSYCH 20809231**                      **Intro Psychology**                      **3 Credits/Units**  
Introduction to Psychology is a study of individual and social behavior including its psychological and physiological bases, development, motivation, emotion, perception, learning and behavior disorders. This course is a prerequisite for several college transfer courses in psychology.

**PSYCH 20809233**                      **Developmental Psychology**                      **3 Credits/Units**  
Developmental Psychology covers the principles of human growth and behavioral development, from conception to death. Topics include methods of studying human behavior, theoretical approaches, individual differences, patterns and sequences of development, and relationships with peers and others.

**PSYCH 20809234**                      **Psychology of Women**                      **3 Credits/Units**  
Review psychological theories and research on women and gender, focusing on uniquely female experiences throughout the life cycle. We will explore the diversity of women by examining the impact of social factors such as race, ethnicity, class, and sexual orientation as they relate to sexism, gender roles, sex differences, language, emotion, motivation, relationships, sexuality, employment, victimization, parenting, and health.

**PSYCH 20809237**                      **Abnormal Psych**                      **3 Credits/Units**  
Abnormal Psychology covers the definition of abnormal behavior, assessment techniques, and descriptions of psychological disorders. It examines theoretical perspectives (biological, psychological, sociocultural) and approaches to treating these disorders.

**PSYCH 20809249**                      **Educational Psychology**                      **3 Credits/Units**  
This course provides the opportunity for learners to develop knowledge, skills and understanding of educational psychology. Learners will explore contemporary and historical theories surrounding teaching and learning. We will explore both pedagogical (child) and andragogical (adult) learning theory focusing on research, best practices, motivation, development, individual differences, diversity, technology and areas of controversy and debate.

**PSYCH 20809296**                      **Cognitive Psychology**                      **3 Credits/Units**  
This course will focus on the theoretical and empirical issues involved in both learning and cognitive processes. The nature of decision-making, language, memory, concept attainment, learning, perception, and problem solving, along with applications of these concepts will be explored.

**PSYCH 20809297**                      **Sport and Performance Psychology**                      **3 Credits/Units**  
Sport and Performance Psychology is the multi-disciplinary study of the important elements connected to the psychology of the human being ability to achieve peak performance. The course will address the components required for success on the ball field, in the classroom, on the stage or while at work in one's career.

**PSYCH 50809551**                      **Job Relations**                      **0.5 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**PTASST 10524139**                      **PTA Patient Interventions**                      **4 Credits/Units**  
An introduction to basic skills and physical therapy interventions performed by the physical therapist assistant.

**PTASST 10524140**                      **PTA Professional Issues 1**                      **2 Credits/Units**  
Introduces the history and development of the physical therapy program; legal and ethical issues; the interdisciplinary health care team; and professional communication skills.

**PTASST 10524142**                      **PTA Therapeutic Exercise**                      **3 Credits/Units**  
Provides instruction on the implementation of a variety of therapeutic exercise principles. Learners implement, educate, adapt, and assess responses to therapeutic exercises.

**PTASST 10524143**                      **PTA Therapeutic Modalities**                      **4 Credits/Units**  
Develops the knowledge and technical skills necessary to perform numerous therapeutic modalities likely to be utilized as a PTA.

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<b>PTASST 10524144</b>	<b>PTA Princ of Neuro Rehab</b>	<b>4 Credits/Units</b>
Integrates concepts of neuromuscular pathologies, physical therapy interventions, and data collection in patient treatment.		
<b>PTASST 10524145</b>	<b>PTA Princ of Musculo Rehab</b>	<b>4 Credits/Units</b>
Integrates concepts of musculoskeletal pathologies, physical therapy interventions, and data collection in patient treatment.		
<b>PTASST 10524146</b>	<b>PTA Cardio and Integumentary Management</b>	<b>3 Credits/Units</b>
Integrates concepts of cardiopulmonary and integumentary pathologies, physical therapy interventions, and data collection in patient treatment.		
<b>PTASST 10524147</b>	<b>PTA Clinical Practice 1</b>	<b>2 Credits/Units</b>
Provides a part-time clinical experience to apply foundational elements, knowledge, and technical skills pertinent to physical therapy practice.		
<b>PTASST 10524148</b>	<b>PTA Clinical Practice 2</b>	<b>3 Credits/Units</b>
Provides another part-time clinical experience to apply foundational elements, knowledge, and technical skills required of the entry level physical therapist assistant in various practice settings.		
<b>PTASST 10524149</b>	<b>PTA Rehab Across the Lifespan</b>	<b>2 Credits/Units</b>
A capstone course that integrates concepts of pathology, physical therapy interventions and data collection across the lifespan. In addition the PTA's role in health, wellness and prevention; reintegration, and physical therapy interventions for special patient populations will be addressed. Pre-requisites: 10-524-144, 10-524-145, 10-524-146, 10-524-147; Co-requisites: 10-524-148, 10-524-150, 10-524-151.		
<b>PTASST 10524150</b>	<b>PTA Professional Issues 2</b>	<b>2 Credits/Units</b>
Incorporates professional development, advanced legal and ethical issues, healthcare management and administration, and further development of professional communication strategies. Pre-requisites: 10-524-144, 10-524-145, 10-524-146, 10-524-147; Co-requisites: 10-524-148, 10-524-149, 10-524-151.		
<b>PTASST 10524151</b>	<b>PTA Clinical Practice 3</b>	<b>5 Credits/Units</b>
Provides a full-time clinical experience to apply foundational elements, knowledge, and technical skills required of the entry level physical therapist assistant in various practice settings.		
<b>PTASST 10524156</b>	<b>PTA Applied Kinesiology 1</b>	<b>4 Credits/Units</b>
Introduces basic principles of musculoskeletal anatomy, kinematics, and clinical assessment. Students locate and identify muscles, joints, and other landmarks of the lower quadrant in addition to assessing range of motion and strength.		
<b>PTASST 10524157</b>	<b>PTA Applied Kinesiology 2</b>	<b>3 Credits/Units</b>
Applies basic principles from PTA Kinesiology 1 to the axial skeleton and upper quadrant including location and identification of muscles, joints, and other landmarks. Assess range of motion and strength of the axial skeleton and upper quadrant. Integrate analysis of posture and gait.		
<b>RADTEC 10526149</b>	<b>Radiographic Procedures 1</b>	<b>5 Credits/Units</b>
Prepares radiography students to perform routine radiologic procedures on various parts of the body including the upper body, hip, pelvis and ankle. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result. Corequisites: 10-526-150, 10-526-158, 10-526-159, and 10-526-168.		
<b>RADTEC 10526158</b>	<b>Introduction to Radiography</b>	<b>3 Credits/Units</b>
Introduces students to the role of radiography in health care. Students apply legal and ethical considerations to patient care and pharmacology in the radiologic sciences. Corequisites: 10-526-149, 10-526-159, 10-526-168.		
<b>RADTEC 10526159</b>	<b>Radiographic Imaging</b>	<b>3 Credits/Units</b>
Introduces radiography students to the process and components of imaging. Students determine the factors that affect image quality including contrast, receptor exposure, spatial resolution and distortion.		
<b>RADTEC 10526168</b>	<b>Radiography Clinical 1</b>	<b>2 Credits/Units</b>
This beginning level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.		
<b>RADTEC 10526174</b>	<b>ARRT Certification Seminar</b>	<b>2 Credits/Units</b>

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Radiography prepares individuals for a career in diagnostic radiology (x-ray) as a radiographer. The radiographer is a technologist who produces images of the human body to aid physicians in the diagnosis of injuries and diseases. Grades of the program are eligible to take the entry-level certification examination administered by the American Registry of Radiography Technologists (AART) and may obtain employment in x-ray departments associated with hospitals, medical clinics, veterinary clinics, and private offices.

Program curriculum focuses on theoretical and applied radiography and includes a clinical experience in a radiographic department. The program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). Students learn to use x-ray imaging machines to demonstrate body parts on x-ray films for diagnostic purposes, including diagnostic radiology, bedside and trauma procedures, pediatric radiography, and special procedures.

**RADTEC 10526189 Radiographic Pathology 1 Credits/Units**  
Prepares radiography students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications, and prognosis and locate the radiographic appearance of pathologies.

**RADTEC 10526190 Radiography Clinical 5 2 Credits/Units**  
This fifth-level clinical course prepares radiography students to perform radiologic procedures on patients with some supervision. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

**RADTEC 10526191 Radiographic Procedures 2 5 Credits/Units**  
Prepares radiography students to perform routine radiologic procedures on various parts of the body including the skull and spine. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result.

**RADTEC 10526192 Radiography Clinical 2 3 Credits/Units**  
This second level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

**RADTEC 10526193 Radiography Clinical 3 3 Credits/Units**  
This third level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting.

**RADTEC 10526194 Imaging Equipment Operation 3 Credits/Units**  
Introduces radiography students to the principles and application of x-ray technology. Students analyze how x-rays are produced and determine the corrective actions necessary for common equipment malfunctions. Prerequisite: 10-526-193. Corequisites: 10-526-195, 10-526-196 and 10-526-199

**RADTEC 10526195 Radiographic Image Analysis 2 Credits/Units**  
Prepares radiography students to analyze radiographic images for quality. Students apply quality control tests to determine the causes of image problems including equipment malfunctions and procedural errors.??

**RADTEC 10526197 Radiation Protection & Biology 3 Credits/Units**  
Prepares radiography students to protect themselves and others from exposure to radioactivity. Students examine the characteristics of radiation and how radiation affects cell biology. Students apply standards and guidelines for radiation exposure.

**RADTEC 10526198 Radiography Clinical 6 2 Credits/Units**  
This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high quality radiographs in the clinical setting. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

**RADTEC 10526199 Radiography Clinical 4 3 Credits/Units**  
This fourth level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

**RADTEC 10526230 Advanced Radiographic Imaging 2 Credits/Units**

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Explores the factors that impact image acquisition, display, archiving and retrieval. Guidelines for selecting exposure factors and evaluating images within digital systems are discussed. Principles of digital system quality assurance and maintenance are presented.

<b>RADTEC 10526231</b>	<b>Imaging Modalities</b>	<b>2 Credits/Units</b>
Introduces radiography students to imaging modalities with an emphasis in computed tomography and cross-sectional anatomy.		
<b>RESPC 10515111</b>	<b>Respiratory Survey</b>	<b>3 Credits/Units</b>
Examines the role of the Respiratory Therapist within the healthcare community. Reviews the ethical, legal, and regulatory principles that guide practice across diverse populations. Introductory patient assessment and critical thinking processes used in the development of respiratory care plans are explored. Pre-requisites: Acceptance into the Respiratory Therapy program. Corequisites: 20-806-206, General Anatomy & Physiology and 10-806-134, General Chemistry.		
<b>RESPC 10515112</b>	<b>Respiratory Airway Management</b>	<b>2 Credits/Units</b>
Focuses on adult respiratory critical care including management of mechanical ventilation and artificial airways.		
<b>RESPC 10515113</b>	<b>Respiratory Life Support</b>	<b>3 Credits/Units</b>
Focuses on adult respiratory critical care including management of mechanical ventilation. Prerequisites: 10-515-175, 10-515-112 Corequisites: 10-515-178 & 10-515-179.		
<b>RESPC 10515171</b>	<b>Respiratory Therapeutics 1</b>	<b>3 Credits/Units</b>
Introduces the topics of medical gas administration and humidity and aerosol therapy. The learner will apply physics, math and patient assessment concepts to oxygen, aerosol and humidity therapy.		
<b>RESPC 10515172</b>	<b>Respiratory Therapeutics 2</b>	<b>3 Credits/Units</b>
Introduces therapeutic procedures including arterial puncture, bronchial hygiene, lung expansion therapy, and pulmonary rehabilitation.		
<b>RESPC 10515173</b>	<b>Respiratory Pharmacology</b>	<b>3 Credits/Units</b>
Examines basic pharmacology principles, drug dosage, and calculations. Medications for inhalation including mucolytics, bronchodilators, and anti-inflammatories. Also includes cardiac drugs, anesthetic drugs, neuromuscular blockers, and antimicrobials.		
<b>RESPC 10515174</b>	<b>Respiratory/Cardiac Physiology</b>	<b>3 Credits/Units</b>
Provides the student with an in-depth knowledge of the structure and function of the respiratory and circulatory systems necessary to function as a competent Respiratory Therapist.		
<b>RESPC 10515175</b>	<b>Respiratory Clinical 1</b>	<b>2 Credits/Units</b>
Introduces respiratory Therapy practice in the hospital setting. Includes the development of skills such as basic therapeutics, patient assessment, medical record review, safety practices, patient interaction, and communication.		
<b>RESPC 10515176</b>	<b>Respiratory Disease</b>	<b>3 Credits/Units</b>
Exploration of signs, symptoms, causes, progression, and treatment of obstructive, restrictive and infectious diseases or disorders of the body that affect the respiratory system. Prerequisites: 10-515-175. Corequisites: 10-515-177, 10-515-178, and 10-515-179		
<b>RESPC 10515178</b>	<b>Respiratory Clinical 2</b>	<b>3 Credits/Units</b>
Continued development of Respiratory Therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 12 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical.		
<b>RESPC 10515179</b>	<b>Respiratory Clinical 3</b>	<b>3 Credits/Units</b>
Continued development of Respiratory Therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 19 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical.		
<b>RESPC 10515180</b>	<b>Respiratory Neo/Peds Care</b>	<b>2 Credits/Units</b>
Provides a comprehensive orientation to the field of neonatal and pediatric respiratory care to include fetal development, birth, neonatal physiology, pulmonary dynamics, abnormal cardiopulmonary conditions, diseases, noninvasive and invasive therapeutic interventions.		
<b>RESPC 10515181</b>	<b>Respiratory/Cardio Diagnostics</b>	<b>3 Credits/Units</b>
Advanced invasive and noninvasive diagnostic cardiopulmonary procedures including pulmonary function, hemodynamics and rescue medicine.		

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**RESPC 10515182                                      Respiratory Clinical 4                                      3 Credits/Units**  
Continued development of Respiratory Therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modification in patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 26 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical.

**RESPC 10515183                                      Respiratory Clinical 5                                      3 Credits/Units**  
Focuses on the completion of respiratory therapy competencies and transition to employment. This course includes the complete program competency list. At the completion of this clinical learners must demonstrate competence in all of the required and/or simulated competencies. The instructor may identify specific competencies to be addressed during this clinical.

**RESPC 10515184                                      Neonatal Pediatric Resuscitation (NRP)                                      1 Credits/Units**  
Provides the student with the practice, theory and skills needed to provide advanced ventilation and resuscitation to infants and children.

**RLEST 10194182                                      Real Estate Law and Sales                                      4 Credits/Units**  
Designed to acquaint students with the field of real estate as well as Wisconsin real estate law. This course also meets the educational requirements for the Wisconsin Real Estate Salesperson's examination. It covers topics such as laws of agency, property ownership, real estate contracts, title issues, real estate financing, fair housing laws, landlord/tenant laws, business ethics, and various other subjects related to the real estate profession. It is particularly oriented toward Wisconsin laws.

**RLEST 10194185                                      Real Estate Broker Management                                      4 Credits/Units**  
Designed to build on the Real Estate Law course, Real Estate Brokerage looks at real estate management including business and financing management, trust accounts, proper use of forms, agency contracts, ethical requirements, office management and transactional concerns. The course is oriented toward real estate brokerage in Wisconsin and fulfills the educational requirement for the Real Estate Broker license in Wisconsin.

**RLEST 10194195                                      Real Estate Internship                                      3 Credits/Units**  
Requires work experience within an approved organization as well as under the sponsorship of someone at the management level. The real estate intern is required to complete 140 hours of supervised work. The intern will complete a final work report at the completion of the semester while the sponsor will complete a job performance evaluation. Class time concentrates on the internship experience. The intern prepares a resume and develops a job strategy as a means of preparing for full-time work upon graduation.

**SMLBUS 10145102                                      Small Business Development                                      3 Credits/Units**  
Provides an introduction to prospective small business owners to the principles involved in planning and operation. Attention is given to small business appraisal and opportunities. Emphasis will be placed on factors that contribute to a successful business operation.

**SMLBUS 10145105                                      Operations Management                                      3 Credits/Units**  
Small business management strategies are applied to policies and operations. Included are applications to budgeting, marketing potentials, forecasting, layout, staffing, work flow, scheduling, and general business decisions. E-commerce is also explored.

**SMLBUS 10145108                                      Field Experience                                      2 Credits/Units**  
Employment in an approved occupation related to the student's future business plans is a prerequisite. Reports and discussion in class are coordinated with student employment. Employee appraisal, evaluation and harmony on the job will also be topics of discussion. The course requires a minimum of 144 hours of employment.

**SMLBUS 10145117                                      Introduction to Entrepreneurship                                      3 Credits/Units**  
Dreaming of starting your own business? This course is designed to inspire and nurture the entrepreneurial spirit. Students will examine the entrepreneurial process and characteristics of successful entrepreneurs, how to identify and evaluate entrepreneurial opportunities, and the critical elements of an effective business plan -- including management, marketing, and financial data. So whether you dream of a new business, or have a plan that needs further development, this course can help you reach your goals.

**SMLBUS 10145120                                      Global Entrepreneurship (3 credits)                                      3 Credits/Units**  
This course introduces an entrepreneurial mindset philosophy focused on the critical skills and personal qualities essential to a successful global business. Course Objectives: 1. To help students learn how to analyze opportunities for global entrepreneurship 2. To familiarize students with the issues and challenges facing global entrepreneurs. 3. Apply your existing entrepreneurial skills into a global context with an experience studying "global" organizations. 4. To familiarize students with the power of networks while working globally.

**SMLBUS 10145122                                      Studies in Gratitude, Optimism, and Well-Being                                      3 Credits/Units**  
Explore mindfulness and resilience techniques that assist in achieving work or other life goals. Examine research-based exercises and strategies to increase gratitude, develop optimism and improve well-being. Learn how to develop habits, overcome obstacles and align character strengths to daily activities. Implement coping mechanisms to foster a purpose-driven life.

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<b>SMLBUS 10145123</b>	<b>Leading Your Life with Emotional Intelligence</b>	<b>3 Credits/Units</b>
Explore the history and research, as well as the different components of emotional intelligence that affect all aspects of your life. Learn how our emotions drive learning, decision-making, creativity, relationships and mental health. Develop strategies to help you build cooperative relationships, handle difficult situations, and create energy and enthusiasm to foster meaningful change in your personal and professional life. Create an action plan to improve and strengthen your emotional intelligence as well as experiment with techniques that facilitate working with others of varying emotional backgrounds and competency levels.		
<b>SMLBUS 10145131</b>	<b>Mastering Mindfulness: The Power of Living in the Present</b>	<b>1 Credits/Units</b>
Students will develop skills to create closer connections with others, examine the importance of savoring in everyday life, learn the art of listening to build more fulfilling relationships and build techniques on how to live more mindfully.		
<b>SMLBUS 10145132</b>	<b>Mastering Mindfulness: Pathway to Personal Development</b>	<b>1 Credits/Units</b>
Students will use one's strengths to increase overall well-being, examine the connection between one's mind and body, design a plan to live a more meaningful, present life, and create positive habits that assist in coping with life's challenges.		
<b>SMLBUS 10145133</b>	<b>Mastering Mindfulness: Strength and Self-Reflection</b>	<b>1 Credits/Units</b>
Students will learn about the power of gratitude, create strategies to build an optimistic mindset, develop mechanisms to increase resilience, and discover the positive impact of forgiveness.		
<b>SMLBUS 10145165</b>	<b>Entrepreneurship for the Small Farmer or Butcher</b>	<b>3 Credits/Units</b>
Course for students who are interested in owning a small farm or a butcher shop. Students will gain a linear knowledge of starting up a small farm or a butcher shop while learning how to maintain their business in a sustainable manner.		
<b>SMLBUS 10145189</b>	<b>Customer Relations</b>	<b>2 Credits/Units</b>
This course examines the general state of customer service in organizations for both internal and external customers. Students will explore how a business can enhance their competitive position by adopting and implementing a variety of service initiatives. Topic areas range from practicing necessary customer service skills, such as communication, listening and conflict management. Students also will create professional cover letters and resumes. Emphasis is given to the fundamentals of grammar, spelling, sentence structure and paragraph development.		
<b>SOC 10809172</b>	<b>Introduction to Diversity Studies</b>	<b>3 Credits/Units</b>
Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored.		
<b>SOC 10809197</b>	<b>Contemporary American Society</b>	<b>3 Credits/Units</b>
This is an interdisciplinary course covering issues that illustrate how our traditional institutions (such as family, education, media, the workplace, the economy and government) are being changed by global political, demographic, multicultural and technological trends. By exploring contemporary issues, students expand their use of critical-thinking skills.		
<b>SOC 20809202</b>	<b>Social Problems</b>	<b>3 Credits/Units</b>
This course examines the major issues confronting society: economic and political change, nationalism, racial and ethnic relations, sexism, socioeconomic class, crime and justice, health and education, and family life. It discusses causes, effects, possible solutions and future trends. This course requires student participation in reading, writing and discussion.		
<b>SOC 20809203</b>	<b>Intro Sociology</b>	<b>3 Credits/Units</b>
Introduces students to the field of Sociology. Defines and examines the concepts and realities of social structure, culture, socialization, complex organizations, class, inequality, social groups and social change. Special emphasis is given to institutions such as the family, religion, education, politics, economics and the media.		
<b>SOC 20809204</b>	<b>Marriage and the Family</b>	<b>3 Credits/Units</b>
Examines the changes in the structure, function and definition of family from a social science perspective. The social, historical, cultural and economic sources of these changes are explored along with a critical examination of what these changes have meant for children, women, men, and society as a whole, especially in recent decades. Contemporary issues and debates are explored, with an emphasis on research evidence. The goal of the course is for students to evaluate their assumptions about marriage and family as they become more informed by social science research, and, on a practical level gain knowledge and insight for navigating the challenges of intimate relationships and family life.		
<b>SOC 20809207</b>	<b>Criminology</b>	<b>3 Credits/Units</b>

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Course develops a sociological framework for the study of crime. It starts by building a foundation for exploring crime—what social factors influence our definition of crime, how we measure crime, the trends and changes in crime rates and patterns, and approaches to crime control. Students will examine theories from a range of inter-disciplinary perspectives on the etiology and causes of crime and criminal behavior. Throughout the course there is an emphasis on current research, policies and practices on how we respond to the crime problem. The goal of this course is to get students thinking about the nature of crime and justice, the complex sources of crime, and to engage in critical thinking on how we respond to crime. What is working? What is not working? What research can we critically examine? What are the social costs of current practices? How can we do better?

**SOC 20809217 Introduction to Special Education 3 Credits/Units**

This introductory course examines ethnic, racial, religious and cultural origins of Americans. The course focuses on social interactions that contribute to the understanding of different groups in diverse settings.

**SOC 20809229 Social Movements 3 Credits/Units**

The Social Movements course examines social movements from a sociological perspective with an emphasis on the United States. It analyzes what constitutes a social movement using a cross cultural as well as a cross political system approach. This course also analyzes the causes of social movements, underscoring the issues of race, class, gender, religion, ethnicity and multiculturalism in regard to legal, political and social equality. Finally, the course will evaluate prospects for social change.

**SOC 20809240 Introduction to Latin America 3 Credits/Units**

Introduction to Latin America provides an interdisciplinary introduction to Latin America. Focuses are on history, politics, economics, society and culture. This course provides a broad and multi-faceted exposure to several themes in particular: historical legacies that shape Latin American life, the experience of revolution and counter-revolution, various economic development strategies, contemporary social change and cultural expression. All of these themes include specific case studies as well as a general overview.

**SOC 20809252 Race and Ethnicity in the U.S. 3 Credits/Units**

Explores how the social constructions of race and ethnicity shape U.S. society and examines structural inequalities and majority-minority group relations. Emphasizes explanations of forms of racism, ethnic and racial prejudice and discrimination; historical background; and forms of cultural resistance and common experiences of African Americans, Indian Americans, Latinos, Asian Americans and other marginalized racial and ethnic groups. Considers employment, housing, political, legal, educational, and familial and health consequences of unequal power. Discusses current policy debates and proposed solutions to inequalities.

**SOC 20809253 Sociology of Gender 3 Credits/Units**

Sociologically examines the importance and power of gender, particularly as it pertains to the status of women and men in society. Students explore the social construction of gender and its impact on identity, roles, relationships, and life experiences. Attention is given to the gender socialization process as well as the ways in which gender impacts romantic and family relationships, division of labor, parenthood, sexuality, crime and violence, media, employment, health, education, religion, political participation, and power. Throughout the course, students reflect upon past, present, and future gender patterns, considering the cultural reinforcement of gender norms as well as the ways in which individuals and institutions challenge them.

**SOC 20809255 Introduction to LGBTQ+ Studies 3 Credits/Units**

Introduction to LGBTQ+ Studies is a sociology course that provides students with the conceptual and analytical tools to understand the LGBTQ+ community. Students will be able to examine historical documents and experiences to comprehend social constructionism, critically unpack the concepts of intersectionality and matrix of domination, understand interactive dynamics within historically oppressed and marginalized groups, dissect positions normalization within social institutions, identify patterns of activism and identity politics, critique contemporary legal and political debates regarding rights and inequalities, analyze the representation of LGBTQ+ within popular culture, and breakdown concerns over assimilation as a concept and a practice. This course will focus mainly on the United States but will include discussions on the global. Academically, the main approach applied in this course will be from Sociology and its subfield of Queer Theory, though work used will be interdisciplinary in nature.

**SOC 20809275 Sociology of Religion 3 Credits/Units**

This course introduces students to the sociological study of religion, including understanding the significance of religion for social structures and culture, the interaction of religion and society, and the religious dimension in secular societies.

**SOC 20809277 Couple Relationships 1 Credits/Units**

Introduces students to empirical research findings on relationship and marriage success and failure as well as to one of the most nationally recognized skills-based prevention programs for couples. Students will learn to distinguish the patterns that erode as well as protect relationships; students will gain skills and strategies that research has identified for strengthening intimate relationships.

**SOC 20809291 Technology and Society 3 Credits/Units**

This sociology course introduces students to the field of Science and Technology Studies. Examines its history, the role of science and technology in our everyday lives, and applications of science and technology. Topics include AI, surveillance, medicine, the role of the market in science and technology, the role of data, and the ethical consequences of technology.

**SOC 20809293 Field Experience in Latin America 1 Credits/Units**



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This 1-credit experiential learning course is designed to complement the Introduction to Latin America course offered at Madison College. Students will spend 10 days on the island of Cuba visiting historic and cultural sites and receive instruction in English. Students gain exposure to Cuban history and culture and the Spanish language, and engage in cross-cultural observation.

**SOC 20809295** **Victimology** **3 Credits/Units**

This sociology course introduces students to the study of victimization. Studies patterns, theories, and consequences of different victimization types. Explores evolution of victims' rights movement and strategies to empower victims. Looks at how social inequalities shape perceptions and treatment of victims.

**SOCSCI 20809206** **Introduction to Women's Studies** **3 Credits/Units**

Women's status and roles in contemporary U.S. society are investigated by analyzing various disciplines and institutions such as the family, law, medicine, psychology, education, religion and the media as they impact upon the socialization process and the classification of people by gender.

**SOCSCI 20809215** **Education in a Pluralistic Society** **3 Credits/Units**

Students will engage and explore diverse educations of people in the United States, and beyond through lenses of privilege, oppression, and opportunity. With self-analysis, reflection, historical investigation, contemporary school programming, schools and society, and communication-skill building, students learn how to be culturally responsive to contexts of communities.

**SOCSCI 20809230** **Statistics for the Social Sciences** **4 Credits/Units**

This course provides the learner with an introductory understanding of statistics for the social sciences and how statistics are applied to the social world. Learners will build skills in analytical and critical thinking through the application of quantitative knowledge to social questions. Discussion will center on problems of data collection, analysis, interpretation, and reporting. Course components will focus on measuring variables, measures of central tendencies, the utility of descriptive statistics, and introduction to inferential statistics and its predictive nature, the differences between samples and populations, and the increased capacity to read and display statistical information. Learners will develop statistical knowledge and skills through the use of software, SPSS, increasing their technological abilities.

**SOCSCI 20809256** **International Perspectives on Gender and Women** **3 Credits/Units**

Explore diverse experiences of gender and women with an international focus. Interdisciplinary in nature, course topics and themes vary each semester. Opportunities to learn from, network with, and empower women as well as cultivate cultural sensitivity and intercultural communication - valuable skills in a global community and economy. Study abroad option available

**SOCSCI 20809257** **Gender and Women's Studies-Study Abroad Experience** **1 Credits/Units**

Step outside the United States and explore the realities of gender and women in other countries and cultures. Through a combination of experiential learning, class discussions, and personal reflections, students will gain a deeper appreciation for the complex gender dynamics at work in our global community.

**SOCSCI 20809269** **Energy And Society** **3 Credits/Units**

The American experience is better understood within the context of the history of energy consumption and production. Our nation's future is inextricably connected to our resolution of the challenges we face with respect to energy. Analyses and solutions require an interdisciplinary approach. The course "Energy and Society" considers the technical, economic, political, environmental, ethical and social contexts of the topic of energy.

**SOCSCI 20809294** **Introduction to Data Analytics** **3 Credits/Units**

This course is an introduction to data analytics. Topics include data collection and cleaning, handling missing data, exploratory data analysis, basic statistical methods, and techniques for visualization of data. Useful data science tools will be introduced, including Excel, SQL, and statistics packages like R or Tableau.

**SOCSCI 20809908** **Honors-Ethnic Studies (3cr)** **3 Credits/Units**

Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at <https://madisoncollege.edu/honors>.

**SPANISH 10802102** **Introductory Spanish Conversation 1** **3 Credits/Units**

Introductory Spanish Conversation is a three-credit, non-college transfer class. At the end of the course, students will be able to carry on uncomplicated conversations about concrete, limited topics. To emphasize speaking and listening skills, the course includes substantial practice in understanding and producing the spoken language. Basic grammatical and structural concepts are introduced, and the development of vocabulary skills is highlighted. Cultural topics are also discussed.

Introductory Spanish Conversation is intended for (a) students who want an introduction to Spanish for communicative purposes and (b) students who need a one-semester introduction to the language before beginning the more intensive college-transfer Spanish courses.

**SPANISH 20802211** **Spanish 1** **4 Credits/Units**

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This course is for students beginning the study of Spanish or those who need to review the basics before going on to Spanish 2. Students will learn to participate in uncomplicated conversations on everyday topics and gain a better understanding of and appreciation for people and cultures other than their own.

**SPANISH 20802212** **Spanish 2** **4 Credits/Units**

This course is for students who have completed 1 year of high school Spanish OR 1 semester of college Spanish. Students will learn to understand more complicated conversations and readings and respond with longer, more complex sentences and even paragraphs. Emphasis will be placed on gaining a better understanding of and appreciation for other cultures.

**SPANISH 20802213** **Spanish 3** **4 Credits/Units**

This course is for students who have completed 2 years of high school Spanish OR 2 semesters of college Spanish. Students will learn to speak and write at an intermediate level, with an ability to discuss topics that require higher level thinking and more complex structures. Emphasis will be placed on gaining a better understanding of and appreciation for other cultures.

**SPANISH 20802214** **Spanish 4** **4 Credits/Units**

This course is for students who have completed 3 years of high school Spanish OR 3 semesters of college Spanish. Students will expand their ability to speak and write at an intermediate level, increasing both the quality and quantity of language produced. Emphasis will be placed on gaining a deeper understanding of and appreciation for other cultures.

**SPANISH 20802215** **Spanish 5** **3 Credits/Units**

This course is for students who have completed 4 years of high school Spanish OR 4 semesters of college Spanish. Students will study advanced grammar with the objective of improving their ability to speak and write accurately in Spanish. Readings of cultural, historical and literary significance will be used to advance students' proficiency.

**SPANISH 20802218** **Spanish 6** **3 Credits/Units**

This course is an in-depth study of important cultural-historical issues of the Hispanic world from pre-Columbian times to present day. Literary readings will be used to advance language proficiency with emphasis on advanced grammatical structures, writing, research, oral communication and analysis. Spanish 6 is offered through the study abroad program in Costa Rica.

**SPEECH 10801198** **Speech** **3 Credits/Units**

This course presents the basic techniques of effective public speaking and listening for students in degree or diploma programs. Students improve their oral communication skills through analysis of purposive listening, preparing and presenting informative and persuasive speeches and using the group process to discuss issues and solve problems. It emphasizes audience analysis, audio-visual techniques, speaker evaluation and group work.

**SPEECH 20810202** **Theory & Practice of Argumentation and Debate** **3 Credits/Units**

This course focuses on the theory and practice of argumentation. On the theoretical level, we will seek to conceive the operations of social and personal transformation that can take place during debate. In particular, we will focus on the means by which arguments can turn on established bases of authority. These sites of commonplace meaning will not only be approached as potential supports for claims, but also as sites in which uncertainty can be created. On the practical level, we will interpret, analyze, and counter present-day arguments. We will also construct arguments of our own and test them in live debates. Finally, we will consider the ways in which the contemporary U.S. government and mass media are actually structured, with an eye to developing pragmatic strategies for effective advocacy.

**SPEECH 20810211** **Oral Interpretation** **3 Credits/Units**

Explores the possibilities offered by the full range of the human voice. Students will be challenged to create theatre in the minds of audience members through interpretation techniques. Concepts covered include selected projects in children's literature, prose, poetry, drama, and reader's theatre.

**STEAM 50435550** **Hot Water Heating Systems** **1 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435552** **Refrigeration Servicing** **2 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435555** **Steam Applications** **2 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435558** **Pneumatic Controls for HVAC** **1 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435570** **Gas and Oil Burner Service** **1 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435571** **System Start, Test, & Balance** **2 Credits/Units**

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This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435575**                      **Science for Steamfitters**                      **1 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435580**                      **Basic Drawing for Steamfitters**                      **1 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435581**                      **System Layout & Design**                      **1 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435583**                      **Applied Field Drawing for Steamfitters**                      **1 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435584**                      **CAD for Steamfitters**                      **1 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435585**                      **Mathematics for Steamfitters 1**                      **0.5 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**STEAM 50435586**                      **Mathematics for Steamfitters 2**                      **0.5 Credits/Units**

This course description is unavailable at this time. Please contact the center offering the course for more information.

**SUPDEV 10196188**                      **Project Management for Supervisors**                      **3 Credits/Units**

The learner applies the skills and tools necessary to design, implement, and evaluate formal projects. Each learner will demonstrate the application of methods for project planning, developing project proposals, use of relevant software, working with project teams, sequencing tasks, charting progress, dealing with variations, managing project budgets and resources, implementation and project assessment.

**SURGT 31512317**                      **Surgical Technologist Functional Microbiology**                      **1 Credits/Units**

Introduces general classification, structure and physiology of microorganisms. Students learn the relationship between microorganisms and the human host as well as microbes in the hospital environment. Examines the study of the disease process, transmission of disease and methods of controlling microbial growth. Pre/Co requisites: Medical Terminology and General A&P, or A&P 1 and 2. Computer Skills are highly recommended.

**SURGT 31512327**                      **ST: Introduction**                      **4 Credits/Units**

Provides the foundational knowledge of infection control and asepsis. Legal and ethical issues encountered in the healthcare environment are explored. Simulated laboratory practice enables the learner to develop beginning technical skills.

**SURGT 31512328**                      **ST: Fundamentals 1**                      **4 Credits/Units**

Includes the basic clinical skills needed by the Surgical Technologist in the scrub role. Learners develop skills in identifying basic instrumentation, supplies, drains, catheters, dressings and sponges. Includes practice experience in creating a sterile field, draping, passing instruments and supplies, performing counts and preparing supplies.

**SURGT 31512329**                      **ST: Fundamentals 2**                      **2 Credits/Units**

Builds upon and reinforces the role of the Surgical Technologist as a member of the operating room team. Discusses care of the patient before, during and after surgery with emphasis on surgical wounds, wound closure materials, and vital signs. Includes lecture and lab experiences.

**SURGT 31512330**                      **ST: Clinical 1**                      **3 Credits/Units**

Apply basic surgical theories, principles, and procedural techniques in the operating room. Students begin to function as team members under the guidance of the instructor and authorized clinical personnel. Surgical rotation case requirements are documented.

**SURGT 31512331**                      **ST: Surgical Procedures**                      **4 Credits/Units**

Provides the foundational knowledge of surgical core and specialty procedures. Examines the pathophysiology, diagnostic interventions and surgical interventions for a variety of surgical procedures. Incorporates integration of basic health sciences and technical knowledge to complete a plan of action for a surgical procedure.

**SURGT 31512332**                      **ST: Clinical 2**                      **4 Credits/Units**

Further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during surgical procedures. Surgical rotation case requirements are documented

**SURGT 31512334**                      **ST: Clinical 3**                      **4 Credits/Units**

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Enhances the student's technical experience and employee skills. Serves as a transition between student and employee. Application of advanced skills for the entry-level Surgical Technologies in the clinical setting.

**TEL&CBL 50451590**                      **Voice Data Video Install Sem 6**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**TEL&CBL 50451591**                      **Voice Data Video Install Sem 1**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**TEL&CBL 50451592**                      **Voice Data Video Install Sem 2**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**TEL&CBL 50451593**                      **Voice Data Video Install Sem 3**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**TEL&CBL 50451594**                      **Voice Data Video Install Sem 4**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**TEL&CBL 50451595**                      **Voice Data Video Install Sem 5**                      **2 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**THERMASS 10537136**                      **Musculoskeletal Anatomy for the Massage Therapist**                      **4 Credits/Units**  
This course introduces students to the anatomy and function of the skeletal and muscular systems of the body. Students learn the names, locations, insertion points, and actions of many of the muscles of the human anatomy. Furthermore, students apply what they learn and develop the essential palpation skills to identify the bones and muscles that comprise the musculoskeletal system. Students also acquire necessary skills for practical range of motion movements.

**THERMASS 10537137**                      **Kinesiology for the Massage Therapist**                      **3 Credits/Units**  
Building upon foundational knowledge from musculoskeletal anatomy, students deepen their understanding with an emphasis on muscle groups used to perform specific actions. Furthermore, students directly apply this knowledge through the practice of ROM, postural and gait assessments to identify muscles involved in specific injuries. Finally, students learn how to integrate assessment techniques into a treatment plan for a more comprehensive approach to patient care.

**THERMASS 10537139**                      **Pathology and Medical Terminology for the Massage Therapist**                      **3 Credits/Units**  
In this course, students learn the types of diseases that affect each of the major body systems and more specifically the signs and symptoms of selected pathologies and disorders that could prove to be a contraindication to massage therapy. Students will also learn the benefits of an integrative and palliative approach to manage chronic conditions and how to approach treatment planning with this in mind. Students will also gain a foundational understanding of medical terminology, a basic understanding of pharmacology and the possible interactions between medications and massage.

**THERMASS 31537340**                      **Therapeutic Massage 1**                      **4 Credits/Units**  
Introduces students to the field of touch therapies and provides students with basic instruction in therapeutic massage theory and technique. Topics covered include: (1) the development of the massage professional; (2) the therapeutic relationship; (3) the history of massage; (4) educational and legal requirements; (5) professional standards and ethics; (6) sanitation and safety procedures; (7) proper draping techniques; (8) proper body mechanics; (9) massage session preparation; (10) Swedish massage techniques; and (11) chair Massage. Many learning activities support students to develop mindfulness skills and increased body awareness.

**THERMASS 31537342**                      **Therapeutic Massage 2**                      **4 Credits/Units**  
Students continue to build upon conceptual framework as established in Therapeutic Massage 1. Topics covered include: (1) research literacy; (2) wellness concepts and stress reduction methods; (3) benefits and effects for therapeutic massage; (4) indications and contraindications to massage therapy; (5) endangerment sites; (6) consultation and record keeping; (7) the development of the massage professional; (8) full body therapeutic massage techniques; (9) proper draping techniques; and (10) proper body mechanics.

**THERMASS 31537344**                      **Specialized Techniques for Therapeutic Massage**                      **4 Credits/Units**  
In this course, students acquire more in-depth treatment planning, documentation and time management skills to prepare for their clinical experience. Students also learn how to adapt therapeutic and stress reduction massage techniques to clients with special needs including: pregnant clients, the elderly, oncology patients and individuals with particular health challenges. Students learn clinical approaches to therapeutic massage such as trigger point therapy and sports massage and explore spa therapies such as hydrotherapy, hot stone and aromatherapy massage. Students also gain a foundational understanding of eastern bodywork theory and technique and examine a variety of modalities to emphasize on career exploration.

**THERMASS 31537346**                      **Therapeutic Massage Clinic and Business Practices**                      **4 Credits/Units**

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This course provides students with opportunities for synthesis and refinement of their massage techniques and treatment planning skills applied to a diverse clientele, within a professional clinic setting. The clinic provides students with valuable hands-on training in the following massage business practices: appointment scheduling, record keeping, customer service and professional communication. Most importantly, students learn to create a restful, relaxing atmosphere for clients. In the business portion of the class, students explore career opportunities, examine Wisconsin's requirements for licensure and prepare for the national and state exams. Students must provide proof of certification CPR before beginning clinic.

**URBN FOR 10001101**                                 **Introduction to Arboriculture**   **2 Credits/Units**  
Examines career specialties and jobs within arboriculture. Provides an overview of tree, shrub, and turf establishment, development, and growth and factors that influence tree health. Introduction to use and maintenance of landscape equipment, tools, and facilities are also covered.

**URBN FOR 10001102**                                 **Plant Health Care Applicator**   **2 Credits/Units**  
The focus of this class is training to successfully pass the Wisconsin Department of Agriculture and Consumer Protection's pesticide applicator exam (which will be proctored in this class). Additionally, students will be familiarized with chemical handling, mixing, calibration, and application via field exercises.

**URBN FOR 10001103**                                 **Arboriculture**   **2 Credits/Units**  
Gain familiarity with techniques, tools, and pieces of equipment used in the management of trees and tree populations. This course serves to create an awareness of arboricultural careers as applied to commercial, municipal, and utility employers.

**URBN FOR 10001105**                                 **Tree Identification, Dendrology & Silvics**   **3 Credits/Units**  
Identify local trees using both common and scientific names, plus tree families in North America. Examine how trees interact with their environment and with one another at different places and over time. Builds on concepts of plant biology and ecology, with an emphasis on woody plant systematics and silvics.

**URBN FOR 10001110**                                 **Tree Biology**   **2 Credits/Units**  
An overview of the tree system with an emphasis on growth and development, compartmentalization of wounds, and how the tree adapts to the urban environment. Includes plant functions, physiology, adaptations, root systems, planting, and basic risk assessment. Diagnose health and structural abnormalities and follow the process to plant a tree.

**URBN FOR 10001113**                                 **Ornamental Plant Health Care for Arboriculture**   **3 Credits/Units**  
Classification and identification of ornamental plant insects, diseases, and abiotic agents, emphasizing their modes of plant damage. Diagnostics, damage assessment, sample preparation, and control strategies are introduced.

**URBN FOR 10001118**                                 **Landscape Plant Identification**   **2 Credits/Units**  
Introduction to identification of woody trees, shrubs and common plant life in the Madison area. Emphasizes methods for identifying large and small canopy trees and ecological characteristics. Introduces industry context.

**URBN FOR 10001121**                                 **Tree Crew Practicum 1**   **2 Credits/Units**  
Implement beginning-level techniques used by arborists who work on tree crews. Perform ground-related activities with limited opportunities to work aloft; participate as a member of a working crew, gain introductory experience in tree pruning, rigging, hardware installation, electrical hazard awareness, ground work, and work site management. Build teamwork and communication skills.

**URBN FOR 10001122**                                 **Tree Crew Practicum 2**   **2 Credits/Units**  
Builds on the knowledge and skills learned in Tree Crew Practicum 1. Implement intermediate-level techniques used by arborists on tree crews. Perform ground related activities with limited opportunities to work aloft; participate as a member of a working crew, gain experience in tree pruning, rigging, hardware installation, electrical hazard awareness, ground work, and work site management. Build teamwork and communication skills.

**URBN FOR 10001123**                                 **Tree Crew Practicum 3-Capstone**   **2 Credits/Units**  
Builds on knowledge and skills learned in Aerial Tree Crew Practicum 2. Implement advanced-level techniques used by arborists who work on tree crews. Perform ground related activities with limited opportunities to work aloft; participate as a member of a working crew, gain experience in tree pruning, rigging, hardware installation, electrical hazard awareness, ground work, and work site management. Build teamwork and communication skills.

**URBN FOR 10001124**                                 **Fundamentals of Aerial Tree Work**   **3 Credits/Units**  
Introduction to the basic safety requirements, equipment, and techniques employed by arborists who work aloft. Topics include applied rope-and-saddle and aerial lift usage, electrical hazard recognition, and common knots used in the industry.

**URBN FOR 10001125**                                 **Aerial Tree Work Practicum 1**   **2 Credits/Units**  
Implement techniques employed by arborists who work aloft. Perform independent study activities and participate as a member of a working crew, gaining introductory experience in tree pruning, rigging, hardware installation, electrical hazard awareness, aerial rescue, ground work, and worksite management.

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<b>URBN FOR 10001126</b>	<b>Aerial Tree Work Practicum 2</b>	<b>2 Credits/Units</b>
Builds on the knowledge and skills learned in Aerial Tree Work Practicum 1. Includes independent study activities of a progressively more comprehensive nature. Assume the role of a crew leader and participate in tree pruning, rigging, hardware installation, electrical hazard awareness, aerial rescue, ground work activities, and worksite management.		
<b>URBN FOR 10001127</b>	<b>Aerial Tree Work Practicum 3-Capstone</b>	<b>2 Credits/Units</b>
Builds on the knowledge and skills learned in Aerial Tree Work Practicum 2. Includes independent study activities of a progressively more comprehensive nature. Assume the role of sales arborist and operations manager. Participate in tree pruning, rigging, hardware installation, electrical hazard awareness, aerial rescue, and ground work activities.		
<b>URBN FOR 10001133</b>	<b>Equipment and Chainsaw Safety and Operation</b>	<b>3 Credits/Units</b>
Personal protective equipment, safe operation, routine maintenance, and common cutting techniques and practices within the industry. Operate a variety of hand held power equipment (chain saws) and a variety of large machinery and industry equipment. Field exercises simulate tree removal operations.		
<b>URBN FOR 10001138</b>	<b>Landscape Management 1</b>	<b>3 Credits/Units</b>
Introduction to the planning, installation and maintenance process of living and non-living landscape materials and turf. Includes cost estimating.		
<b>URBN FOR 10001139</b>	<b>Landscape Management 2</b>	<b>3 Credits/Units</b>
Manage the planning, installation and maintenance of living and non-living landscape materials and turf. Perform plant health care treatments, including pest and insect management,		
<b>URBN FOR 10001149</b>	<b>Ecological Basis for Natural Resources Management</b>	<b>3 Credits/Units</b>
Introduction to the principles of ecology that underlie the practice of natural resource management. Discuss factors operating to develop and maintain ecosystems and communities. Examine the application of important ecological principles in various natural resources management strategies. Develop skills in data collection, preparation of technical reports, use of library resources, use of computer models and critical thinking.		
<b>URBN FOR 10001173</b>	<b>Urban Tree Maintenance</b>	<b>2 Credits/Units</b>
The art and science of tree pruning are the primary objectives of this course. Young tree training and mature tree maintenance are introduced and practiced. Proper pruning cuts and techniques specified by ANSI-A300 are taught throughout this class.		
<b>URBN FOR 10001198</b>	<b>Soil and Water Resources</b>	<b>3 Credits/Units</b>
Analyze integrated concepts of soil and water resources at the landscape level. Examine physical, chemical, and biological interactions relating to watershed processes and response to land use and management		
<b>URBN FOR 10001199</b>	<b>Forest, Fisheries, and Wildlife</b>	<b>3 Credits/Units</b>
Integrated introduction to principles and practices of fisheries, forestry, and wildlife management, including production of goods and services while maintaining ecosystem integrity and functions; emphasis on contemporary issues.		
<b>VETTECH 10091102</b>	<b>Introduction to Veterinary Technician</b>	<b>2 Credits/Units</b>
Explores the veterinary profession, common facility operations, office communication, and customer service strategies. Learn about the importance of accurate record maintenance and math calculations during care of patients and within the veterinary facility. Examine laws and governing agencies within the profession.		
<b>VETTECH 10091107</b>	<b>Animal Disease 1</b>	<b>2 Credits/Units</b>
Covers etiology, symptoms, transmission, diagnosis, prevention and control of diseases that are transmissible from animals to humans as well as animals to animals. Reporting requirements and handling of diagnostic samples involving high-exposure diseases are also discussed.		
<b>VETTECH 10091108</b>	<b>Animal Disease 2</b>	<b>2 Credits/Units</b>
Covers etiology, symptoms, transmission, diagnosis, prevention and control of common diseases in a wide variety of animal species. Toxic plants and other substances, as well as reporting and monitoring of federally regulated diseases will also be discussed.		
<b>VETTECH 10091109</b>	<b>Pharmacology 1 - Animals</b>	<b>2 Credits/Units</b>
Introduction to drugs and other substances used in veterinary medicine. Emphasizes drug usage, client education, measurement, administration, and safe storage of antiparasitics, antiinflammatories, antibiotics and nervous system drugs.		
<b>VETTECH 10091110</b>	<b>Pharmacology 2</b>	<b>2 Credits/Units</b>
Introduction to drugs and other substances used in veterinary medicine. Emphasizes drug usage, client education, measurement, administration, and safe storage of cardiac, respiratory, gastrointestinal, chemotherapy, ophthalmic and other drugs.		

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<b>VETTECH 10091122</b>	<b>Advanced Topics in Veterinary Medicine</b>	<b>1 Credits/Units</b>
Current topics and advanced diagnostic procedures in veterinary medicine.		
<b>VETTECH 10091123</b>	<b>Lab Animal Science 1</b>	<b>2 Credits/Units</b>
This course includes the history of laboratory animal technology and laboratory animal uses. Emphasizes the Animal Welfare Act and other regulations pertaining to the care of laboratory animals. Covers laboratory animal husbandry in depth as students provide care and treatment for a colony of laboratory animals. Pre-requisites: 10-806-105, 10-091-170, 10-091-171 or concurrent enrollment in all of the above.		
<b>VETTECH 10091127</b>	<b>Surgical Nursing 1</b>	<b>3 Credits/Units</b>
This introductory course to surgical nursing covers surgical instruments, package prep, patient prep, anesthesia, monitoring and post-op care.		
<b>VETTECH 10091128</b>	<b>Animal Nursing 1</b>	<b>2 Credits/Units</b>
Designed to build nursing skills learned in 10-091-172, Animal Care & Management 2, with emphasis on large animal anesthetic techniques, surgical preparation and monitoring.		
<b>VETTECH 10091134</b>	<b>Veterinary Technician Pre-Surgery</b>	<b>1 Credits/Units</b>
Investigate surgical equipment and procedures; identify instruments, sterile technique processes, and instrument maintenance and operation. Examine anesthetic protocols and equipment. Prepares students for assisting with surgical care of animals.		
<b>VETTECH 10091137</b>	<b>Veterinary Technician Clinical 1</b>	<b>2 Credits/Units</b>
Integrate skills in an approved clinical setting of your choice to develop proficiency in animal nursing techniques and procedures. Final evaluation is done in partnership with the clinic and a Madison College instructor.?		
<b>VETTECH 10091138</b>	<b>Veterinary Technician Clinical 2</b>	<b>2 Credits/Units</b>
Further integrate skills in an approved clinical setting of your choice to develop proficiency in animal nursing techniques and procedures. Final evaluation is done in partnership with the clinic and a Madison College instructor.		
<b>VETTECH 10091140</b>	<b>Animal Anatomy &amp; Physiology 1</b>	<b>3 Credits/Units</b>
Lectures will emphasize terminology, functions, location, identification and organization of anatomical structures that are parts of body systems. Students dissect and study cadavers and tissue specimens from common domestic species.		
<b>VETTECH 10091152</b>	<b>Surgical Nursing 2</b>	<b>3 Credits/Units</b>
This course focuses on the continuation of basic surgical nursing and anesthesia skills. Also covers basic dental prophylaxis, dental radiography, and cardiopulmonary resuscitation.		
<b>VETTECH 10091153</b>	<b>Diagnostic Imaging</b>	<b>3 Credits/Units</b>
Explores concepts in veterinary radiology, electrocardiography, ultrasound, endoscopy and other special imaging procedures and technologies.		
<b>VETTECH 10091161</b>	<b>Veterinary Laboratory Procedures 1</b>	<b>4 Credits/Units</b>
Collect, prepare, and analyze lab specimens from animals for use in generating a diagnosis; parasite, fungus, biochemical, and immunoassay tests. Integrate use of the microscope and a safe, quality driven specimen management process.		
<b>VETTECH 10091162</b>	<b>Veterinary Laboratory Procedures 2</b>	<b>4 Credits/Units</b>
Collect, prepare, and analyze lab specimens from animals for use in generating a diagnosis; urine, blood, blood serum, biopsies; examine the structure and function of animal cells. Integrate use of the microscope and a safe, quality driven specimen management process.		
<b>VETTECH 10091170</b>	<b>Veterinary Medical Terminology</b>	<b>2 Credits/Units</b>
Teaches acceptable veterinary medical terminology for common clinically recognizable diseases, operations, systems and procedures, as well as common medical signs, abbreviations and colloquial vocabulary.		
<b>VETTECH 10091171</b>	<b>Animal Care and Management 1</b>	<b>3 Credits/Units</b>
Focuses on handling and husbandry of the animals most commonly seen in veterinary medicine. Includes animal behavior, nutrition, and healthcare. Prerequisite: 10-091-170 Veterinary Medical Terminology, 10-091-102 Introduction to Veterinary Technician, 10-806-105 Principles of Animal Biology.		
<b>VETTECH 10091172</b>	<b>Animal Care And Management 2</b>	<b>3 Credits/Units</b>
Focuses on handling, medical nursing and disease processes of animals most commonly seen in veterinary medicine.		
<b>VICOM 10206109</b>	<b>Intro to Electronic Design</b>	<b>2 Credits/Units</b>

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Provides students with a working knowledge of the technical part of digital photography workflow, including the basic principles of working with Adobe Photoshop.

**VICOM 10206128** **Compositing and Special Effects** **3 Credits/Units**  
Chroma keying, 3D, expressions, mattes, rotoscoping, motion tracking, particles and advanced camera effects are the main focus of this course. Students will use After Effects and Motion to create movies for various delivery methods, using storyboarding and previsualization techniques prior to development.

**VICOM 10206129** **Motion Design** **2 Credits/Units**  
The focus of this course is learning the basic tenets of animation and movement for time-based media, with an emphasis on communication design. Learners will use Adobe After Effects to integrate typography, illustration, photography, video, and audio files to create industry relevant projects. Concept development, asset creation, file management, the timeline, character animation, effects, transitions, masking, and rendering for multiple output types will be covered in detail.

**VICOM 10206130** **Video Production** **3 Credits/Units**  
The student will become familiar with basic video production techniques for studio and fieldwork. Learning the basics of camera techniques, studio and field experiences, live studio recording and video team productions will be covered. In addition, the student will learn digital editing software to produce finished video projects, such as educational, promotional and service videos. Students will need their own video-enabled DSLR camera. Please contact the course instructor prior to any camera purchase.

**VICOM 10206131** **Sound Production Techniques** **3 Credits/Units**  
This is an introductory sound production course in which students will learn to create clean, consistent, and intelligible audio recordings within a project driven curriculum. Students will learn sound principles, critical listening skills, and apply digital recording, editing, and mixing techniques to industry standards.

**VICOM 10206142** **Advanced Video Production** **3 Credits/Units**  
Digital Video Production and Editing is an advanced course in documentary, short film and motion graphics production. Building on the skills learned in Video Production 1. This course emphasizes advanced editing and video graphics.

**VICOM 10206144** **Audio Internship** **1 Credits/Units**  
The internship program is designed to provide students with an opportunity to relate current educational material from the college classroom to practical experience under the direction of professionals in extended work assignments.

**VICOM 10206147** **Introduction to DSLR Video Production** **2 Credits/Units**  
The student will become familiar with shooting video on a DSLR camera and how shooting video differs from still photography. During this introductory course, the students will learn to shoot, capture and digitally edit their video to produce a final video project.

**VICOM 10206151** **Advanced Audio Techniques** **3 Credits/Units**  
Students will gain skills in on-location and studio audio capture techniques and best practices, hardware and software interconnects and troubleshooting, audio post-production editing, sweetening, and processing, project management skills, and voice-over recording and processing. Completion of Sound Production Techniques, 10206131 is recommended but not required.

**VICOM 10206153** **Audio Project Management** **3 Credits/Units**  
An introduction and review to small business and freelance practices specific to audio production. Course will review areas such as business setup, legal organization, pricing, time management, timekeeping, bidding, management of subcontractors and billing. This course will teach best industry practices in all of those areas and how to operate a small freelance business.

**VICOM 10206155** **2D Character Animation** **3 Credits/Units**  
This course will cover the fundamentals of character design and animation in 2D. Students will learn concept development, line of action, gesture, and proportion to create a model sheet. The final designs will then be recreated digitally - allowing for movement and lip-syncing captured in real-time, then outputted for use in web, video, or live broadcast.

**VICOM 10206156** **Introduction to Careers in the Live Music Industry** **1 Credits/Units**  
This survey course focuses on non-performing careers in the Live Music Industry: its professions, the personal qualities and aptitudes for a career in the live music industry, and the broad range of opportunities and tasks performed. The course also offers students an introduction to the requirements and demands of this industry and the broad range of careers possible.

**VICOM 10206162** **Video Project Management** **3 Credits/Units**  
An introduction and review to small business practices specific to operation of a small visual arts business. Course will review areas such as business setup, legal organization, pricing, time management, timekeeping, bidding, management of subcontractors and billing. This course will teach best industry practices in all of those areas and how to operate a small freelance business.

**VICOM 10206181** **Digital Color** **2 Credits/Units**



## Madison Area Technical College

Color management impacts our imaging and color specialists develop a standard that permits us to control color workflow, from recording an image to manipulation (post-production) to final output. How do we make our devices all speak the same color language? Students will become aware of "special light sources" in our imaging paradigm and how to prepare for compensate for the color problems they can cause in our color imaging workflow.

**VICOM 10206191    Advanced Motion Design    3 Credits/Units**  
This course builds on and expands the skillsets acquired in the introductory Motion Design course. Students will learn about adding depth through 3D objects and layers. In addition, software toolsets will be expanded based on the latest techniques that are relevant in today's job market.

**VICOM 10206192    Live Audio Basics    3 Credits/Units**  
Learn the basics of setting up and running audio for live events. You will gain knowledge of current technologies of live audio including properly setting up small and large audio systems, different current audio consoles, wireless monitor systems, microphone configuration, and more. This course will be part lecture, part guest speakers, and part hands on learning with industry professionals.

**VICOM 10206193    Live Lighting Design Basics    3 Credits/Units**  
Learn the basics of setting up and running audio for live events. You will gain knowledge of current technologies of lighting including designing a light rig for a live event, how to properly set up and run a live lighting show, current moving lights and digital consoles, and more. This course will be part lecture, part guest speakers, and part hands on learning with industry professionals.

**VICOM 10206194    Live Video Production Basics    3 Credits/Units**  
Learn the basics of setting up and running video for live events. You will gain knowledge of current technologies of video including projection, LED walls, how to properly set up and run video for a live event, and more. This course will be part lecture, part guest speakers, and part hands on learning with industry professionals.

**VICOM 10206196    Live Production Internship    1 Credits/Units**  
Gain real experience with an internship with a local company involved with live events. Examples: Frank Productions, Intellasound Productions, Overture Hall, ETC, IATSE, & others.

**VICOM 10206197    Portfolio Media Lab    1 Credits/Units**  
This course runs in conjunction with Portfolio Prep (10201162) in order to enhance the students' media work for their portfolio with feedback from both instructors and industry professionals. Self-initiated projects and post-graduation strategies for employment will be covered. Students will participate in the employer focused Portfolio Show and promote their work on the college portfolio website.

**VICOM 10206198    Advanced Live Audio Production    3 Credits/Units**  
Take your knowledge of Live Audio Production to the next level. This course will expand into more advance techniques to prepare you for the workplace.

**VICOM 10206199    Advanced Live Lighting Production    3 Credits/Units**  
Take your knowledge of Live Lighting to the next level. This course will expand into more advance techniques to prepare you for the workplace.

**VICOM 10206200    Advanced Live Video Production    3 Credits/Units**  
Take your knowledge of Live Video Production to the next level. This course will expand into more advance techniques to prepare you for the workplace.

**VICOM 10206201    Live Production Portfolio    1 Credits/Units**  
Students prepare a portfolio of their work and various business materials to apply for employment. Students are supervised and assisted in choice and number of samples, and portfolio layout. Lectures are given on job interviewing and job markets.

**WELD 31442312    Oxy Fuel Welding and Thermal Cutting    2 Credits/Units**  
Perform manual and semi-automatic cutting and gouging using oxy-fuel and plasma arc cutting processes. Also, oxy-fuel and plasma cutting safety and proper handling of cylinders is covered. Applications will be to English and metric dimension.

**WELD 31442314    Arc Welding Theory    2 Credits/Units**  
Emphasizes welding theory, safe use of welding equipment, hand and power tools, oxy-fuel and plasma arc cutting, AWS joint, weld procedures, and defects and their causes. Electrical applications, effects of welding machine power sources, electrode selection and welding symbols will also be covered.

**WELD 31442315    Basic Arc (SMAW)    2 Credits/Units**  
Students in this course will develop manipulative skills on all types of joints in the flat position using shielded metal arc welding electrodes on mild steel. Welding techniques used for structural, pipe and maintenance welding will be developed.

**WELD 31442318    Gas Tungsten Arc Welding 1 (GTAW/TIG)    2 Credits/Units**

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Emphasis is placed on gas tungsten arc welding (TIG) techniques of stainless steel. Development of skills and techniques on all types of joints in flat and horizontal positions. Aluminum and steel techniques may also be covered.

**WELD 31442320 Welding Occupational Development 1 Credits/Units**  
Applications of welding terminology, use of forms, contracting, professional ethics and employment relations are studied. Specific topics germane to the welding field in decision-making, responsibility and preparation for the welding career are covered.

**WELD 31442321 Arc Welding (SMAW) Vertical 2 Credits/Units**  
Students develop manipulative skills on all types of joints in the vertical up and down positions, using E7018 & E6010 shielded metal arc welding electrodes on mild steel. Students will also develop welding techniques used for fillet and groove weld competencies to AWS D1.1 structural steel welding code.

**WELD 31442322 Advanced Welding Techniques 2 Credits/Units**  
Develops manipulative skills on all types of joints in the overhead and/or pipe positions using E7018 & E6010 shielded metal arc welding electrodes on mild steel. Develop welding techniques used for fillet and groove weld competencies to AWS D1.1 structural steel welding code. Course also includes air carbon arc gouging (ACC), repairs, and other advanced welding processes and applications for related trades.

**WELD 31442323 Basic Gas Metal Arc Welding (GMAW/MIG) 2 Credits/Units**  
Students develop manipulative skills on all types of joints in the flat, horizontal and vertical up and down position using short circuiting transfer. Students will perform gas metal arc welding techniques using 1/8" to 1/2" structural fabricated parts, as per AWS code standards. Emphasis is placed on operating gas metal arc welding equipment in a safe manner and determining machine set-up for metal thickness, wire size and speed.

**WELD 31442326 Flux Cored & Advanced Gas Metal Arc Welding (FCAW/GMAW) 2 Credits/Units**  
Continuation of development of skills and techniques on all types of joints in the flat, horizontal and vertical up and down positions, using short circuiting and spray arc transfer. Students will also learn flux-cored gas shielding and self shielding welding techniques. Mild steel, stainless steel and aluminum (1/16" to 1" thickness) are the metals used in welding joint assemblies, as per AWS code standards.

**WELD 31442328 Gas Tungsten Arc Welding 2 (GTAW/TIG) 2 Credits/Units**  
Students develop manipulative skills on all types of joints in the flat, horizontal, vertical, over head and pipe positions. Gas tungsten arc welding of stainless, aluminum, and steel welding techniques will be covered using 1/8" to 1/32" (11 ga to 20 ga) structural fabricated parts, pipe, repair welding and for other related trades, as per AWS and ASME welding code standards.

**WELD 31442332 Oxy-Fuel Cutting 1 1 Credits/Units**  
The Oxy-Fuel Cutting 1 course will introduce the students to manual cutting using a handheld torch. The students will also be introduced to the plasma cutting process. Oxy-fuel and plasma cutting safety with proper handling of cylinders is covered.

**WELD 31442390 Fundamentals of Metallurgy 2 Credits/Units**  
Introduction to metallurgy with emphasis on applications, selection, identification methods and alloy influences. Properties are studied utilizing testing, micro-structure interpretation and heat treatment processes. Tool steels, weld heat effects, failure analysis as well as machinability variations in cast iron, alloy steels and non-ferrous materials are covered in detail.

**WELD 32442313 Related Welding 1 Credits/Units**  
A lecture/hands-on course; students learn basic welding processes, equipment operations and safety procedures. Emphasizes welding procedures and practices commonly used in the machine tool industry.

**WELD 50442500 Fundamentals of Arc Welding 4 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.

**WELD 50442504 Advanced Pipe Welding Techniques 4 Credits/Units**  
This course description is unavailable at this time. Please contact the center offering the course for more information.