WSUTECH

COLLEGE CATALOG
2023-2024

316.677.9400 | WSUTECH.EDU

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WSU Tech has been delivering excellence in education since 1965 with our original campus on 301 S. Grove. WSU Tech continues to build on this tradition with quality instructors, talented students and state-of-the-art technical equipment. Together, these elements help create a hands-on learning environment that promotes participation and prepares students for further education and/or career experiences.

Mission, Vision and Values

Mission
The Mission of WSU Tech is to provide quality higher education and leadership in workforce training that supports economic development for a global economy.

Vision
To be one of the nation's most innovative and impactful two-year colleges.

Values: Values Based Culture
The WSU Tech team operates in a valued based culture and strive towards the following behaviors in everything they do.

SAME TEAM. One Role, One Goal: Unite and include many diverse perspectives to achieve our mission.
I Collaborate for Maximum Impact.
I give and accept constructive feedback through open communication.
I foster a fun and healthy environment that encourages relationship building.
I recognize and celebrate achievements of co-workers and students.
I advocate for an inclusive and diverse environment that allows all employees and students to thrive.

PEOPLE FIRST. Treat everyone consistently with compassion, respect, and kindness.
I listen first to understand.
I approach all interactions with empathy and respect.
I serve others with helping hands and a positive attitude.
I remain receptive to new ideas and approach situations with an open mind.
I assume good intentions and respond rather than react.

INTEGRITY. Uphold the highest standards in all our actions.
I exhibit ethical behavior by doing the right thing, even when no one is watching.
I build open and honest relationships.
I make my intentions clear.
I strive to earn trust, loyalty, and respect every day.
I utilize human, financial, and physical resources wisely.

Values Continued:

VISIONARY. Future focused. Redefining education by inspiring innovative ideas, bold explorations, and continuous curiosity.

I take educated risks to remain relevant, nimble and responsive to ever-evolving needs of our communities.

I am resilient when faced with rapid change and challenges.

I support innovation and remain open minded to bold, new ideas.

I demonstrate commitment to life-long learning and personal development.

LEADERSHIP. Leadership is an activity, not a position. Anyone can lead, anytime, anywhere.

I take initiative and do what needs to be done.

I am generous in sharing my knowledge.

I empower others to resolve problems at the first opportunity.

I am responsible for communicating and cascading needed information throughout the college.

I demonstrate good judgment in decision making.

SERVICE TO ALL. Provide exceptional experiences to all that we serve.

I anticipate the needs of each individual and take a solutions-oriented approach.

I model excellence through accountability to myself and others.

I aspire to exceed expectations.

I am committed to providing exceptional experiences.

I act with an attitude of selflessness in all interactions.

Guiding Principles

Provide our students an opportunity to a better life through education and training.
Provide a highly educated and trained workforce for our community to be globally competitive.

Ask ourselves as we make decisions, is it in the best interest of our students, employees and community.

Strategic Plan

2021-2023 Strategic Plan - *2024 Strategic Plan Pending Will Submit Addendum Upon Completion.

Governance and Structure

Kansas Board of Regents

The Kansas Board of Regents (KBOR) is comprised of nine members who are appointed by the governor of Kansas and confirmed by the Kansas Senate. KBOR governs six state universities and supervises and coordinates 19 community colleges, six technical colleges and a municipal university. KBOR primarily deals with educational policies, programs, services,providers and other systems in an effort to improve and maintain the high quality of education in Kansas. KBOR also coordinates vital programs, such as adult

Governance and Structure Continued:

literacy, qualified admissions, concurrent enrollment for high school students, financial assistance for education and many others. KBOR, in conjunction with the Kansas Post secondary Technical Education Authority, approves technical programs offered by WSU Tech.

WSU Tech Industry Advisory Board

The WSU Tech Industry Advisory Board consists of 11 appointed, voting members who establish and publish policies, regulations and procedures pertaining to WSU Tech.

Industry Advocate Teams

Program advisory committees, representatives from business and industry, provide a very important link between WSU Tech and the community. These teams validate learning outcomes deemed essential by business and industry for successful entry or advancement in specific occupations. These teams also monitor the curriculum, recommend instructional equipment and help keep the programs current with emerging technologies.

Accreditation

The Higher Learning Commission – North Central Association

The Higher Learning Commission (HLC) is part of the North Central Association (NCA) of Colleges and Schools. NCA is one of six regional institutional accreditors in the United States. Through its Commissions, it accredits and thereby grants membership to educational institutions in the North Central region.

WSU Tech is fully accredited by The Higher Learning Commission and a member of the North Central Association as of October 2008.

The Higher Learning Commission
230 South LaSalle Street, Suite 7-500 Chicago, IL 60604-1411
Phone: 800.621.7440 / 312.263.0456
Fax: 312.263.7462

Nondiscrimination

WSU Tech does not discriminate with regard to race, color, national origin, sex, handicap/disability, religion or age. Persons having inquiries may contact the Human Resources director, 4004 N. Webb Rd, Wichita, KS 67226, 316.677.9400.

WSU Tech intends to comply with all applicable federal, state and local laws and regulations, including but not limited to: the Civil Rights Act of 1964, as amended; the Americans With Disabilities Act of 1990; the Age Discrimination in Employment Act of 1967; the Drug-Free Schools and Campuses Act; the Campus Security Act (Jeanne Cleary Act), as amended; the Family Educational Rights and Privacy Act of 1974, as amended; and the Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance rules.

Persons having inquiries may contact the Human Resources director, 4004 N. Webb Rd, Wichita, KS 67226, 316.677.9400.

Educational Programs

Students have many educational opportunities at WSU Tech and are encouraged to select the program or course of study that best meets their needs. These opportunities include general education courses and associate of applied science (AAS) degrees, technical certificates, and certificates of completion. Students may also opt to select courses that focus on particular technical skills instead of registering in a complete program.

Associate of Applied Science Degrees

AAS degree programs are designed to provide students with the knowledge and skills needed to enter the workforce, advance within their chosen careers or further their education. To be awarded the AAS degree, students must successfully complete a minimum of 60 credit hours – a combination of technical and general education hours. Although AAS degrees are designed to prepare students for employment, technical credits may transfer to other colleges or universities. The Vice President, Academic Affairs may approve alternative general education courses and acceptance of transfer credits or work experience.

General Education

WSU Tech's philosophy and approach to general education promotes the appreciation for lifelong learning necessary to support the professional, academic, and personal success of students. Every degree program incorporates general education courses designed to prepare students with a foundation in computers, written and verbal communication, mathematics, natural sciences and social sciences. These themes are also integrated and applied through the core curriculum in WSU Tech's technical certificate programs.

WSU Tech provides general education courses required for its degree programs. These courses are taught with curricula that meet or exceed state core curriculum standards approved by KBOR and are taught by instructors with the appropriate credentials. WSU Tech's general education courses that lead to the AAS degree are interspersed throughout the program with various instructional delivery methods that allow flexibility for student schedules.

WSU Tech's technical coursework provides a knowledge base in the application of natural sciences and fosters a tendency to think using an analytical and problem-solution approach; however, what students learn in technical courses is not the only knowledge they need nor is it the only way of thinking. Students will encounter people in their professional and personal lives that will challenge them in other ways – politically, aesthetically, emotionally and morally. General education courses are designed to support and further students' comfort level in dealing with differing opinions and appreciating other ways of thinking.

Technical Certificates

Technical certificate programs provide the knowledge and skills needed to enter the workforce. Students who wish to pursue an AAS degree may transfer most of these courses and credits to an AAS degree program at WSU Tech.

Certificates of Completion

Certificate of Completion programs provide the knowledge and skills required in today's competitive and changing workforce. Programs vary in length from a few days to several months.

Policies and Procedures

Skills USA Fee

All students enrolled in the following programs are assessed a mandatory fee for Skills USA:

Automotive Service Technology, Climate and Energy Control Technologies (HVAC), Aviation Maintenance Technology, Machining Technology, Construction Science, Architectural Design Technology, Engineering Design Technology, Welding, Police Science.

Locations & Phone Numbers

General Information	316.677.9400
Fax	316.677.9555
Website	wsutech.edu
Emergency Closing Hotline	316.677.9596

NATIONAL CENTER FOR AVIATION TRAINING/JABARA (NCAT)
4004 N. Webb Road | Wichita, KS 67226 | 316.677.9400

General Information	316.677.9400
Academic Success/Tutoring	316.677.9440
Admissions	316.677.9400
Bookstore	316.677.9459
Business Office	316.677.9511
Disability Services/Accommodation Requests	316.677.1912
Financial Aid	316.677.9400
Online Learning	316.677.9400
Registrar	316.677.9400
Student IT Helpdesk	316.677.9906
Student Success Services/Career Services	316.677.9520
Testing Services	316.677.9506
Workforce Education and Development	316.677.1404

CITY CENTER CAMPUS
301 S. Grove | Wichita, KS 67211 | 316.677.9400

Adult Literacy/GED	316.677.1150
General Information	316.677.9440

WSU SOUTH
3821 E. Harry | Wichita, KS | 67218 | 316.677.9400

General Information	316.677.1500
Academic Success/Tutoring	316.677.9440
Admissions	316.677.9400
Business Office	316.677.1941
Disability Services/Accommodation Requests	316.677.1912
Financial Aid	316.677.9400
Library	316.677.9492
Online Learning	316.677.9400
Registrar	316.677.9400
Student Success Services/Career Services	316.677.9520
Testing Services	316.677.9492

NATIONAL INSTITUTE FOR CULINARY AND HOSPITALITY EDUCATION (NICHE)
124 S. Broadway | Wichita, KS | 67202 | 316.677.9400

Additional Instructional Sites

WSU West
3801 N. Walker Avenue | Maize, KS | 67101 | 316.677.9400

McConnell Air Force Base
Robert J. Dole Community Center
53474 Lawrence Ct | McConnell AFB | KS 67221

WSU TECH

PROGRAMS OF STUDY

Accounting, TC

CRN		COURSE NAME	CREDITS
ACC	105	Fundamentals of Accounting	3
ACC	130	Managerial Accounting	3
ACC	160	Principles of Accounting I	3
ACC	170	Principles of Accounting II	3
BUS	104	Introduction to Business	3
BUS	130	Personal Finance	3
BUS	137	Introduction to QuickBooks	3
BUS	200	Principles of Management	3
CED	115	Computer Applications	3
ECO	105	Principles of Macroeconomics	3
ECO	110	Principles of Microeconomics	3
ENG	101	Composition I	3
MTH	112	College Algebra	3
MTH	120	Elementary Statistics	3
SPH	101	Public Speaking	3
Total			**45.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$6,765.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Aerospace Coatings and Paint Technology, AAS

CRN		COURSE NAME	CREDITS
ACP	100	Introduction to Coatings & Paint Technology	3
ACP	101	Surface Preparation & Coatings	4
ACP	102	Performance & Durability of Coatings	3
ACP	103	Color Technology	3
ACP	104	Specialized Coating Processes	3
ACP	105	Specialized Detailing	3
ACP	106	Aerospace Coatings & Materials	3
ACP	111	Technical Co-Operative Project	4
ACP	121	Surface Preparation & Coatings II	3
ACP	124	Specialized Coatings Processes II	4
AVC	104	Quality Control Concepts	1
AVC	105	Aircraft Familiarization	1
AVC	107	Fundamentals for Aerospace Manufacturing	1
AVC	110	Safety/OSHA 10	1
AVC	112	Blueprint Reading	2
AVC	120	Introduction to Sealing	1
AVC	140	Electrical Bonding & Grounding	1
MCD	106	Precision Measuring	2
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Total			**60.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,346.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

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KSDegreeStats.org

Aerospace Coatings and Paint Technology, TC

CRN		COURSE NAME	CREDITS
ACP	100	Introduction to Coatings & Paint Technology	3
ACP	101	Surface Preparation & Coatings	4
ACP	102	Performance & Durability of Coatings	3
ACP	103	Color Technology	3
ACP	104	Specialized Coating Processes	3
ACP	105	Specialized Detailing	3
ACP	106	Aerospace Coatings & Materials	3
ACP	111	Technical Co-Operative Project	4
ACP	121	Surface Preparation & Coatings II	3
ACP	124	Specialized Coatings Processes II	4
AVC	104	Quality Control Concepts	1
AVC	105	Aircraft Familiarization	1
AVC	107	Fundamentals for Aerospace Manufacturing	1
AVC	110	Safety/OSHA 10	1
AVC	112	Blueprint Reading	2
AVC	120	Introduction to Sealing	1
AVC	140	Electrical Bonding & Grounding	1
MCD	106	Precision Measuring	2
PDV	105	Blueprint for Personal Success	2
MTH	020	Math Fundamentals	3
Total			**48.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$12,473.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

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KSDegreeStats.org

Aerospace Manufacturing Technology, AAS

CRN		COURSE NAME	CREDITS
		Technical Electives - 43	**43**
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Technical Elective			
ACP	100	Introduction to Coatings & Paint Technology	
ACP	101	Surface Preparation & Coatings	
ACP	104	Specialized Coating Processes	
AER	106	Aerospace Manufacturing Tooling Orientation	
AER	111	Tap and Die	
AER	115	Aerostructures Assembly	
AER	116	Hand Power Tools for Aerospace Tooling	
AER	126	Tooling Capstone	
AER	135	Quality Assurance Orientation	
AER	150	Assembly Overview I	
ARU	157	Advanced Assembly	
AER	166	Electrical Hand Tools	
AER	165	Electrical Assembly Mechanic Orientation	
AER	167	Drilling & Riveting/Ground Stud Installation	
AER	168	Wire Installation Drawings	
AER	169	Crimping & Cables	
AER	170	Fiber Optics for Aerospace	
AER	175	Wire Bundle Basics	
AER	180	Soldering	
AER	185	Wire Bundle Installation	
AVC	102	Precision Instruments	
AVC	103	Geometric Dimensioning & Tolerancing	
AVC	104	Quality Control Concepts	
AVC	105	Aircraft Familiarization	
AVC	107	Fundamentals for Aerospace Manufacturing	
AVC	108	Aircraft Systems & Components	
AVC	110	Safety/OSHA 10	
AVC	112	Blueprint Reading	
AVC	120	Introduction to Sealing	
AVC	125	Bonding and Grounding	
AVC	127	Aviation Assembly Core	
AVC	135	Hand Tools	
AVC	140	Electrical Bonding & Grounding	
AVC	145	Power Island	
AVC	150	Human Factors	
AVC	165	Technical Writing	
AVC	170	Conflict Resolution	
AVC	137	Precision Measuring	
AVC	190	Aerospace Applied Learning	
BUS	121	Business Communications	
CFT	101	Introduction to Composites	
CFT	106	Composite Finish Trim	
CFT	112	Composite Assembly I	
CFT	113	Composite Assembly II	
CFT	107	Composite Assembly	
CFT	130	Composite Fabrication Methods / Applications	
CFT	135	Overview of Composite Inspection	
CFT	140	Composite Inspection	
CWG	110	Welding Applications	
CWG	105	Welding Safety & Orientation	
LEN	100	Lean for Operations	
MCD	106	Precision Measuring	
MCD	137	Introduction to 3D Printing	
NDT	114	Visual Inspection	
ROB	100	Introduction to Robotics	
Total			**60.00**

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$13,662.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

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KSDegreeStats.org

Aerospace Manufacturing Technology, TC

CRN		COURSE NAME	CREDITS
AER	115	Aerostructures Assembly	6
AVC	103	Geometric Dimensioning & Tolerancing	1
AVC	105	Aircraft Familiarization	1
AVC	107	Fundamentals for Aerospace Manufacturing	1
AVC	108	Aircraft Systems & Components	4
AVC	125	Bonding and Grounding	1
AVC	135	Hand Tools	1
AVC	145	Power Island	1
AVC	150	Human Factors	1
AVC		**Aviation Assembly Core**	**7**
CFT	101	Introduction to Composites	2
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Aviation Core			
AVC	127	Aviation Assembly Core - or all of the following courses	
AVC	102	Precision Instruments	
AVC	104	Quality Control Concepts	
AVC	110	Safety/OSHA 10	
AVC	112	Blueprint Reading	
AVC	120	Introduction to Sealing	
AVC	140	Quality Control Concepts	
Total			**31.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$8,615.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

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KSDegreeStats.org

Alternative Fuel Vehicle Maintenance & Advanced Electronics, AAS

CRN		COURSE NAME	CREDITS
AFV	110	Electrical I	3
AFV	120	Electrical II	5
AFV	125	Manual Transmission/Transaxle & Drive Train	4
AFV	130	Suspension and Steering I	3
AFV	135	Introduction to Alternative Fuels	3
AFV	140	Engine Repair	4
AFV	145	Hybrid Systems & Maintenance	3
AFV	150	Electric/Fuel Cell Technology	1
AFV	155	High Voltage Battery Technology & Management	3
AFV	160	Brakes I	3
AFV	165	Introduction to CNG and LPG Conversion, Installation & Maintenance	1
AFV	170	Automotive Computer Systems	3
AFV	175	Automatic Transmission Repair	4
AFV	180	Heating & Air Conditioning	4
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Total			**61.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$13,212.00**

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elective credits required.

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admission requirements.

KSDegreeStats.org

Alternative Fuel Vehicle Maintenance & Advanced Electronics, TC

CRN		COURSE NAME	CREDITS
AFV	110	Electrical I	3
AFV	120	Electrical II	5
AFV	125	Manual Transmission/Transaxle & Drive Train	4
AFV	130	Suspension and Steering I	3
AFV	135	Introduction to Alternative Fuels	3
AFV	140	Engine Repair	4
AFV	145	Hybrid Systems & Maintenance	3
AFV	150	Electric/Fuel Cell Technology	1
AFV	155	High Voltage Battery Technology & Management	3
AFV	160	Brakes I	3
AFV	165	Introduction to CNG and LPG Conversion, Installation & Maintenance	1
AFV	170	Automotive Computer Systems	3
AFV	175	Automatic Transmission Repair	4
AFV	180	Heating & Air Conditioning	4
PDV	105	Blueprint for Personal Success	2
Total			**46.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$10,912.00**

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KSDegreeStats.org

Architectural Design Technology, AAS

CRN		COURSE NAME	CREDITS
MCD	101	Introduction to CAD I	3
MCD	102	Introduction to CAD II	2
MCD	104	Blueprint Reading for Drafting	2
MCD	106	Precision Measuring	2
MCD	112	Industrial Materials & Processes	2
MCD	114	Architectural Drafting & Design	3
MCD	115	Machine Drafting & Design	3
MCD	121	Descriptive Geometry	3
MCD	122	Architectural CAD	4
MCD	124	Advanced AutoCAD	4
MCD	132	Basic Chief Architect/Architectural Desktop	3
MCD	134	Advanced Chief Architect/Architectural Desktop	3
MCD	205	Residential Drafting	3
MCD	206	Commercial Drafting & Design	3
MCD		**Technical Elective - 3 Credits**	**3**
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**

Technical Elective

CRN		COURSE NAME	CREDITS
CAT	101	CATIA Parts Design & Sketcher	
MCD	130	Basic Solidworks	
MCD	133	Advanced Solidworks	
MCD	137	Introduction to 3D Printing	
MCD	140	Drafting Technology Internship	
MCD	210	Advanced Measuring	
Total			**60.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$13,471.00**

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KSDegreeStats.org

Architectural Design Technology, TC

CRN		COURSE NAME	CREDITS
MCD	101	Introduction to CAD I	3
MCD	102	Introduction to CAD II	2
MCD	104	Blueprint Reading for Drafting	2
MCD	106	Precision Measuring	2
MCD	112	Industrial Materials & Processes	2
MCD	114	Architectural Drafting & Design	3
MCD	115	Machine Drafting & Design	3
MCD	121	Descriptive Geometry	3
MCD	122	Architectural CAD	4
MCD	124	Advanced AutoCAD	4
MCD	132	Basic Chief Architect/Architectural Desktop	3
MCD	134	Advanced Chief Architect/Architectural Desktop	3
CED	115	Computer Applications	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
Total			**45.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$10,263.00**

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KSDegreeStats.org

AutoCAD, COC

CRN		COURSE NAME	CREDITS
MCD	101	Introduction to CAD I	3
MCD	102	Introduction to CAD II	2
MCD	124	Advanced AutoCAD	4
PDV	105	Blueprint for Personal Success	2
		Math Elective	**3**
Total			**14.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$2,888.00**

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Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

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KSDegreeStats.org

Automotive Service Technology, AAS

CRN		COURSE NAME	CREDITS
TAS	124	Electrical I	3
TAS	125	Electrical II	5
TAS	126	Manual Transmission/Transaxle & Drive Train	4
TAS	127	Automatic Transmission Repair	4
TAS	128	Heating & Air Conditioning	4
TAS	131	Engine Performance I	3
TAS	133	Brakes I	3
TAS	134	Brakes II	1
TAS	135	Computer Systems	3
TAS	136	Suspension and Steering I	3
TAS		**Auto Service or Diesel Electives - 11 Credits**	**11**
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Auto Service Electives			
TAS	121	Engine Repair	
TAS	132	Engine Performance II	
TAS	137	Suspension and Steering II	
TAS	150	O.E.M. Certification	
Diesel Electives			
TAS	140	Diesel Engine Repair	
TAS	142	Diesel Engine Performance	
TAS	155	Hydraulic Systems & Repair	
Total			**61.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$12,672.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Automotive Technology - Night, TC

CRN		COURSE NAME	CREDITS
TAS	124	Electrical I	3
TAS	125	Electrical II	5
TAS	126	Manual Transmission/Transaxle & Drive Train	4
TAS	127	Automatic Transmission Repair	4
TAS	128	Heating & Air Conditioning	4
TAS	131	Engine Performance I	3
TAS	133	Brakes I	3
TAS	134	Brakes II	1
TAS	135	Computer Systems	3
TAS	136	Suspension and Steering I	3
TAS		**Technical Elective - 11 Credits**	**11**
CED	115	Computer Applications	3
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Technical Electives			
TAS	121	Engine Repair	
TAS	132	Engine Performance II	
TAS	137	Suspension and Steering II	
TAS	150	O.E.M. Certification	
Total			**52.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$10,927.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Automotive Technology, TC

CRN		COURSE NAME	CREDITS
TAS	124	Electrical I	3
TAS	125	Electrical II	5
TAS	126	Manual Transmission/Transaxle & Drive Train	4
TAS	127	Automatic Transmission Repair	4
TAS	128	Heating & Air Conditioning	4
TAS	131	Engine Performance I	3
TAS	133	Brakes I	3
TAS	134	Brakes II	1
TAS	135	Computer Systems	3
TAS	136	Suspension and Steering I	3
		Auto Service or Diesel Elective - 11 Credits	**11**
CED	115	Computer Applications	3
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Auto Service Electives			
TAS	121	Engine Repair	
TAS	132	Engine Performance II	
TAS	137	Suspension and Steering II	
TAS	150	O.E.M. Certifaction	
Diesel Electives			
TAS	140	Diesel Engine Repair	
TAS	142	Diesel Engine Performance	
TAS	155	Hydraulic Systems & Repair	
Total			**52.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$11,294.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

25

Aviation Maintenance Airframe, TC

CRN		COURSE NAME	CREDITS
AMT	233	Airframe I	4
AMT	234	Airframe II	4
AMT	235	Airframe III	5
AMT	236	Airframe IV	5
AMT	237	Airframe V	5
AMT	238	Airframe VI	5
AMT	239	Airframe VII	4
PDV	105	Blueprint for Personal Success	2
Total			**34.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,088.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

**All AMT program students are required to purchase tool kits
via WSU Tech. This purchase will be made in the Airframe 2
and PowerPlant 2 semesters of the program. Tools may not
be purchased outside of WSU Tech.**

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Aviation Maintenance High School, TC

CRN		COURSE NAME	CREDITS
AMT	187	General I	4
AMT	188	General II	4
AMT	189	General III	5
AMT	190	General IV	5
AMT	233	Airframe I	4
AMT	234	Airframe II	4
AMT	235	Airframe III	5
AMT	236	Airframe IV	5
PDV	105	Blueprint for Personal Success	2
Total			**38.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	**$14,225.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

All AMT program students are required to purchase tool kits via WSU Tech. This purchase will be made in the Airframe 2 and PowerPlant 2 semesters of the program. Tools may not be purchased outside of WSU Tech.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Aviation Maintenance Powerplant, TC

CRN		COURSE NAME	CREDITS
AMT	253	Powerplant I	4
AMT	254	Powerplant II	5
AMT	255	Powerplant III	5
AMT	256	Powerplant IV	6
AMT	257	Powerplant V	5
Total			**25.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$10,950.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

**All AMT program students are required to purchase tool kits
via WSU Tech. This purchase will be made in the Airframe 2
and PowerPlant 2 semesters of the program. Tools may not
be purchased outside of WSU Tech.**

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Aviation Maintenance Technology, AAS

CRN		COURSE NAME	CREDITS
AMT	187	General I	4
AMT	188	General II	4
AMT	189	General III	5
AMT	190	General IV	5
AMT	233	Airframe I	4
AMT	234	Airframe II	4
AMT	235	Airframe III	5
AMT	236	Airframe IV	5
AMT	237	Airframe V	5
AMT	238	Airframe VI	5
AMT	239	Airframe VII	4
AMT	253	Powerplant I	4
AMT	254	Powerplant II	5
AMT	255	Powerplant III	5
AMT	256	Powerplant IV	6
AMT	257	Powerplant V	5
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
CED	115	Computer Applications	3
		Communication Elective	3
		Math Elective	3
		Social Science Elective	3
Total			**92.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$34,637.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

**All AMT program students are required to purchase tool kits
via WSU Tech. This purchase will be made in the Airframe 2
and PowerPlant 2 semesters of the program. Tools may not
be purchased outside of WSU Tech.**

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Aviation Maintenance Technology General, TC

CRN		COURSE NAME	CREDITS
AMT	187	General I	4
AMT	188	General II	4
AMT	189	General III	5
AMT	190	General IV	5
Total			**18.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$7,299.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Aviation Sheetmetal Assembly, TC

CRN		COURSE NAME	CREDITS
AER	115	Aerostructures Assembly	6
AVC	127	Aviation Assembly Core	7
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Total			**18.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$3,937.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

Avionics Technology, AAS

CRN		COURSE NAME	CREDITS
AVT	101	Electricity & Electronics I	4
AVT	103	Avionics	3
AVT	105	Avionics Systems & Troubleshooting	5
AVT	108	Wiring & Cannon Plug Lab	2
AVT	110	Communication, Navigation & Surveillance Systems I	5
AVT	112	Communication, Navigation & Surveillance Systems II	4
AVT	122	Aircraft and Electronics for NCATT Applications	4
AVT	131	Electricity and Electronics II	4
AVT	137	Fundamentals of Flight	3
AVT	145	Troubleshooting Essentials	3
AVT	150	UAS Operations	3
AVT	155	Advanced Wiring	3
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Total			**60.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$11,775.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

Avionics Technology, TC

CRN		COURSE NAME	CREDITS
AVT	101	Electricity & Electronics I	4
AVT	103	Avionics	3
AVT	105	Avionics Systems & Troubleshooting	5
AVT	108	Wiring & Cannon Plug Lab	2
AVT	110	Communication, Navigation & Surveillance Systems I	5
AVT	112	Communication, Navigation & Surveillance Systems II	4
AVT	122	Aircraft and Electronics for NCATT Applications	4
AVT	131	Electricity and Electronics II	4
AVT	137	Fundamentals of Flight	3
AVT	145	Troubleshooting Essentials	3
AVT	150	UAS Operations	3
AVT	155	Advanced Wiring	3
PDV	105	Blueprint for Personal Success	2
		Math Elective	**3**
Total			**48.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$9,936.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Business Administration, AAS

CRN		COURSE NAME	CREDITS
ACC	105	Fundamentals of Accounting	3
ACC	130	Managerial Accounting	3
ACC	160	Principles of Accounting I	3
ACC	170	Principles of Accounting II	3
BUS	104	Introduction to Business	3
BUS	121	Business Communications	3
BUS	140	Principles of Marketing	3
BUS	200	Principles of Management	3
CED	115	Computer Applications	3
ECO	105	Principles of Macroeconomics	3
ECO	110	Principles of Microeconomics	3
ENG	101	Composition I	3
ENG	120	Composition II	3
ENT	110	Introduction to Entrepreneurship	3
MTH	112	College Algebra	3
MTH	120	Elementary Statistics	3
PHL	115	Logic	3
PSY	101	General Psychology	3
SPH	101	Public Speaking	3
		Electives - 3 Credits	**3**
Electives			
BUS	130	Personal Finance	
BUS	180	Business Internship	
BUS	137	Introduction to QuickBooks	
Total			**60.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$8,978.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Carpentry Introduction, TC

CRN		COURSE NAME	CREDITS
CCP	100	Introductory Craft Skills	3
CCP	105	Carpentry Basics	4
CCP	110	Floors, Walls, & Ceiling Framing	4
CCP	115	Roof Framing	3
CCP	120	Windows, Doors, & Stairs	3
SAF	101	Safety Orientation/OSHA 10	1
Total			**18.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	$5,641.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

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KSDegreeStats.org

Certified Medication Aide, COC

CRN		COURSE NAME	CREDITS
GRA	119	Medication Aide	5
Total			**5.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$952.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Certified Medication Aide Update, COC

CRN		COURSE NAME	CREDITS
MDU	010	Medication Aide Update	1
Total			**1.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$146.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Certified Nurse Aide, COC

CRN		COURSE NAME	CREDITS
GRA	101	Certified Nurse Aide	5
Total			**5.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	$902.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

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Certified Nurse Aide Update, COC

CRN		COURSE NAME	CREDITS
CNU	010	Certified Nurse Aide Update	1
Total			**1.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$250.00**

*Cost does not include online fees, books or tools. Financial Assistance may be available to those who qualify. Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Chief Architect, COC

CRN		COURSE NAME	CREDITS
MCD	112	Industrial Materials & Processes	2
MCD	132	Basic Chief Architect/Architectural Desktop	3
MCD	134	Advanced Chief Architect/Architectural Desktop	3
PDV	105	Blueprint for Personal Success	2
		Math Elective	**3**
Total			**13.00**

LOCATION

National Center for Aviation Training
4004 North Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$2,773.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Climate & Energy Control Technologies, AAS

CRN		COURSE NAME	CREDITS
ACR	112	HVAC Fundamentals	4
ACR	113	Electrical Fundamentals	4
ACR	116	Workplace Skills	1
ACR	117	Intro to Mechanical Refrigeration	4
ACR	118	Electrical Fundamentals II	3
ACR	119	Advanced Electrical Theory for HVAC	2
ACR	121	Heating System Fundamentals	3
ACR	122	Heating System Fundamentals II	3
ACR	123	Heat Loads and Duct Sizing	2
ACR	124	Advanced Heating Systems	3
ACR	126	EPA 608	1
ACR	127	Heat Pumps	4
ACR	128	Commercial HVAC	4
ACR	129	Commercial HVAC Lab	4
ACR	140	Sheet Metal Fabrication I	3
SAF	101	Safety Orientation/OSHA 10	1
CED	115	Computer Applications	3
ENG	101	Composition I	3
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Total			**61.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$12,812.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Climate & Energy Control Technologies, TC

CRN		COURSE NAME	CREDITS
ACR	112	HVAC Fundamentals	4
ACR	113	Electrical Fundamentals	4
ACR	116	Workplace Skills	1
ACR	117	Intro to Mechanical Refrigeration	4
ACR	118	Electrical Fundamentals II	3
ACR	121	Heating System Fundamentals	3
ACR	122	Heating System Fundamentals II	3
ACR	123	Heat Loads and Duct Sizing	2
ACR	124	Advanced Heating Systems	3
ACR	126	EPA 608	1
ACR	127	Heat Pumps	4
ACR	128	Commercial HVAC	4
ACR	129	Commercial HVAC Lab	4
ACR	140	Sheet Metal Fabrication I	3
SAF	101	Safety Orientation/OSHA 10	1
Total			**44.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$10,050.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Cloud Computing/Cloud Application Development, AAS

CRN	COURSE NAME	CREDITS
CLD 118	Cloud Fundamentals	3
CLD 121	Object-Oriented Programming (JavaScript)	3
CLD 122	Introduction to Web Development	3
CLD 126	Test Driven Development (JavaScript)	3
CLD 129	Programming Foundations (Swift iOS)	3
CLD 138	Object -Oriented Programming (Python)	3
CLD 143	Web Application Development I (HTML/CSS)	3
CLD 158	Multi-Cloud Development Services	3
CLD 166	Cloud Application Development I (REACT on AWS)	3
CLD 170	Cloud Application Development II (Serverless REACT on AWS)	3
CLD 175	Information Technology Internship	3
CLD Or INF	**Information Technology Electives - 12 Credits**	**12**
CED 115	Computer Applications	3
ENG 101	Composition I	3
PDV 105	Blueprint for Personal Success	2
	Communication Elective	**3**
	Math Elective	**3**
	Social Science Elective	**3**
Information Technology Electives		
CLD 123	DevNet I	
CLD 131	Continuous Integration Continuous Delivery - CICD	
CLD 137	C# Programming Language	
CLD 141	Test Driven Development (Python)	
CLD 147	Website Production & Web Management (Word Press)	
CLD 152	Web Application Development II (REACT)	
CLD 153	Multi-Cloud Administration	
CLD 156	Advanced Web Development (PHP)	
CLD 168	AWS Cloud Practitioner	
CLD 169	Machine Learning and AI Foundations with Predictive Analytics	
CLD 177	AWS Solutions Architect Associate	
CLD 182	Microsoft Azure Administrator	
CLD 185	Virtual Private Cloud Administration	
CLD 182	Microsoft Azure Administrator	
CLD 187	Cloud Native Infrastructure (Kubernetes)	
CLD 188	Cloud Data and DevOps Specialist (AWS)	
CLD 191	Microsoft Enterprise O365 Administration	
CLD 193	Cloud DevOps Engineer I	
CLD 196	Cloud DevOps Engineer II	
INF 105	A+ Certification - Essentials	
INF 110	A+ Certification - Application	
INF 113	Introduction to Programming	
INF 115	Network+ Part I	
INF 116	Network+ Part II	
INF 120	Security+	
INF 127	Linux+ Part I	
INF 128	Linux+ Part II	
INF 134	Server	
INF 136	Powershell	
INF 142	Introduction to Storage Solutions	
INF 144	Virtualization	
INF 146	Powershell II	
INF 155	Digital Forensics	
INF 160	Server Security	
INF 161	Introduction to Networks	
INF 164	Switching, Routing, and Wireless Essentials	
INF 165	Advanced Cyber Security	
INF 167	Enterprise Networking, Security, and Automation	
Total		**62.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	**$12,873.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

Cloud Computing/Cloud Application Development, TC

CRN	COURSE NAME	CREDITS
CLD 118	Cloud Fundamentals	3
CLD 121	Object-Oriented Programming (JavaScript)	3
CLD 122	Introduction to Web Development	3
CLD 126	Test Driven Development (JavaScript)	3
CLD 129	Programming Foundations (Swift iOS)	3
CLD 138	Object -Oriented Programming (Python)	3
CLD 143	Web Application Development I (HTML/CSS)	3
CLD 158	Multi-Cloud Development Services	3
CLD 166	Cloud Application Development I (REACT on AWS)	3
CLD 175	Information Technology Internship	3
CLD Or INF	**Information Technology Electives - 15 Credits**	**15**
PDV 105	Blueprint for Personal Success	2
Information Technology Electives		
CLD 123	DevNet I	
CLD 131	Continuous Integration Continuous Delivery - CICD	
CLD 137	C# Programming Language	
CLD 141	Test Driven Development (Python)	
CLD 147	Website Production & Web Management (Word Press)	
CLD 152	Web Application Development II (REACT)	
CLD 153	Multi-Cloud Administration	
CLD 156	Advanced Web Development (PHP)	
CLD 168	AWS Cloud Practitioner	
CLD 169	Machine Learning and AI Foundations with Predictive Analytics	
CLD 177	AWS Solutions Architect Associate	
CLD 182	Microsoft Azure Administrator	
CLD 185	Virtual Private Cloud Administration	
CLD 180	Advanced Network Security	
CLD 182	Microsoft Azure Administrator	
CLD 187	Cloud Native Infrastructure (Kubernetes)	
CLD 188	Cloud Data and DevOps Specialist (AWS)	
CLD 191	Microsoft Enterprise O365 Administration	
CLD 193	Cloud DevOps Engineer I	
CLD 196	Cloud DevOps Engineer II	
INF 105	A+ Certification - Essentials	
INF 110	A+ Certification - Application	
INF 113	Introduction to Programming	
INF 115	Network+ Part I	
INF 116	Network+ Part II	
INF 120	Security+	
INF 127	Linux+ Part I	
INF 128	Linux+ Part II	
INF 134	Server	
INF 136	Powershell	
INF 142	Introduction to Storage Solutions	
INF 144	Virtualization	
INF 146	Powershell II	
INF 155	Digital Forensics	
INF 160	Server Security	
INF 161	Introduction to Networks	
INF 164	Switching, Routing, and Wireless Essentials	
INF 165	Advanced Cyber Security	
INF 167	Enterprise Networking, Security, and Automation	
Total		**47.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	**$9,743.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

CNC Operator, TC

CRN		COURSE NAME	CREDITS
MMG	113	Print Reading	3
MMG	116	Quality Control & Inspection	1
MMG	131	Metallurgy	1
MMG	135	Machining Fundamentals	3
MMG	155	CNC Lathe	3
MMG	156	CNC Operations	3
MMG	160	CNC Milling I	3
AVC	110	Safety/OSHA 10	1
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Total			**23.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	$6,275.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Composite Fabrication, COC

CRN		COURSE NAME	CREDITS
CFT	101	Introduction to Composites	2
CFT	106	Composite Finish Trim	2
CFT	107	Composite Assembly	2
CFT	130	Composite Fabrication Methods /Applications	2
AVC	110	Safety/OSHA 10	1
AVC	112	Blueprint Reading	2
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Total			**16.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$4,837.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

Composite Fabrication, TC

CRN		COURSE NAME	CREDITS
CFT	101	Introduction to Composites	2
CFT	106	Composite Finish Trim	2
CFT	107	Composite Assembly	2
CFT	130	Composite Fabrication Methods/Applications	2
AVC	102	Precision Instruments	1
AVC	104	Quality Control Concepts	1
AVC	105	Aircraft Familiarization	1
AVC	110	Safety/OSHA 10	1
AVC	112	Blueprint Reading	2
AVC	120	Introduction to Sealing	1
AVC	140	Electrical Bonding & Grounding	1
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Total			**21.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL $5,867.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

Composite Repair, COC

CRN		COURSE NAME	CREDITS
CFT	140	Composite Inspection	2
CFT	141	Disassemble & Damage Removal Techniques	3
CFT	142	Composite Repair	4
CFT	143	Complex Composite Repairs	3
CFT	144	Electrical Bonding Repair	1
AVC	102	Precision Instruments	1
AVC	110	Safety/OSHA 10	1
Total			**15.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$5,838.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

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KSDegreeStats.org

Composite Repair, TC

CRN		COURSE NAME	CREDITS
CFT	101	Introduction to Composites	2
CFT	106	Composite Finish Trim	2
CFT	107	Composite Assembly	2
CFT	130	Composite Fabrication Methods/Applications	2
CFT	140	Composite Inspection	2
CFT	141	Disassemble & Damage Removal Techniques	3
CFT	142	Composite Repair	4
CFT	143	Complex Composite Repairs	3
CFT	144	Electrical Bonding Repair	1
AVC	102	Precision Instruments	1
AVC	104	Quality Control Concepts	1
AVC	105	Aircraft Familiarization	1
AVC	107	Fundamentals for Aerospace Manufacturing	1
AVC	108	Aircraft Systems & Components	4
AVC	110	Safety/OSHA 10	1
AVC	112	Blueprint Reading	2
AVC	120	Introduction to Sealing	1
AVC	125	Bonding and Grounding	1
AVC	135	Hand Tools	1
AVC	140	Electrical Bonding & Grounding	1
AVC	145	Power Island	1
CED	115	Computer Applications	3
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	3
Total			**48.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$13,649.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Composite Technology, AAS

CRN		COURSE NAME	CREDITS
CFT	101	Introduction to Composites	2
CFT	106	Composite Finish Trim	2
CFT	107	Composite Assembly	2
CFT	130	Composite Fabrication Methods/Applications	2
CFT	140	Composite Inspection	2
CFT	141	Disassemble & Damage Removal Techniques	3
CFT	142	Composite Repair	4
CFT	143	Complex Composite Repairs	3
CFT	144	Electrical Bonding Repair	1
AVC	102	Precision Instruments	1
AVC	104	Quality Control Concepts	1
AVC	105	Aircraft Familiarization	1
AVC	107	Fundamentals for Aerospace Manufacturing	1
AVC	108	Aircraft Systems & Components	4
AVC	110	Safety/OSHA 10	1
AVC	112	Blueprint Reading	2
AVC	120	Introduction to Sealing	1
AVC	125	Bonding and Grounding	1
AVC	135	Hand Tools	1
AVC	140	Electrical Bonding & Grounding	1
AVC	145	Power Island	1
LEN	100	Lean for Operations	3
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Math Elective	**3**
		Social Science Elective	**3**
		Communication Elective	**3**
		Humanities Elective	**3**
Total			**62.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$15,461.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Computer Support Specialist, AAS

CRN		COURSE NAME	CREDITS
INF	105	A+ Certification - Essentials	3
INF	110	A+ Certification - Application	3
INF	112	Network Essentials	3
INF	115	Network+ Part I	3
INF	116	Network+ Part II	3
INF	120	Security+	3
INF	134	Server	3
INF	136	Introduction to PowerShell	3
INF		**Computer Support Specialist Electives - 12 Credits**	**12**
INF		**Information Systems Electives - 6 Credits**	**6**
INF		**Experiential Learning Electives - 3 Credits**	**3**
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**

Computer Support Specialist Electives

CLD	122	Introduction to Web Development	
INF	127	Linux+ Part I	
INF	128	Linux+ Part II	
INF	142	Introduction to Storage Solutions	
INF	161	Introduction to Networks	
INF	164	Switching, Routing, and Wireless Essentials	
INF	167	Enterprise Networking, Security, and Automation	

Experiential Learning

INF	174	Information Technology Capstone	
INF	175	Information Technology Internship	

Information Systems Electives

INF	113	Introduction to Programming	
INF	127	Linux+ Part I	
INF	128	Linux+ Part II	
INF	142	Introduction to Storage Solutions	
INF	144	Virtualization	
INF	146	Powershell II	
INF	155	Digital Forensics	
INF	157	Cyber Law and Ethics	
INF	160	Server Security	
INF	161	Introduction to Networks	
INF	164	Switching, Routing, and Wireless Essentials	
INF	165	Advanced Cyber Security	
INF	167	Enterprise Networking, Security, and Automation	
INF	180	Advanced Network Security	
CLD	118	Cloud Fundamentals	
CLD	121	Object-Oriented Programming (JavaScript)	
CLD	122	Introduction to Web Development	
CLD	123	DevNet I	
CLD	126	Test Driven Development (JavaScript)	
CLD	129	Programming Foundations (Swift iOS)	
CLD	131	Continuous Integration Continuous Deployment - CICD	
CLD	137	C# Programming Language	
CLD	138	Object-Oriented Programming (Python)	
CLD	141	Test Driven Development (Python)	
CLD	143	Web Application Development I (HTML/CSS)	
CLD	147	Website Production & Management (Word Press)	
CLD	152	Web Application Development II (REACT)	
CLD	153	Multi-Cloud Administration	
CLD	156	Advanced Web Development (PHP)	
CLD	158	Multi-Cloud Development Services	
LD	166	Cloud Application Development I (REACT on AWS)	
CLD	168	AWS Cloud Practitioner	
CLD	169	Machine Learning and AI Foundations with Predictive Analytics	
CLD	170	Cloud Application Development II (Serverless REACT on AWS)	
INF	177	AWS Solutions Architect Associate	
CLD	182	Microsoft Azure Administrator	
CLD	185	Virtual Private Cloud Administration	
CLD	187	Cloud Native Infrastructure (Kubernetes)	
CLD	188	Cloud Data and DevOps Specialist (AWS)	
CLD	191	Microsoft Enterprise O365 Administration	
CLD	193	Cloud DevOps Engineer I	
CLD	196	Cloud DevOps Engineer II	
Total			**62.00**

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,537.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

KSDegreeStats.org

Computer Support Specialist, TC

CRN		COURSE NAME	CREDITS
INF	105	A+ Certification - Essentials	3
INF	110	A+ Certification - Application	3
INF	112	Network Essentials	3
INF	115	Network+ Part I	3
INF	116	Network+ Part II	3
INF	120	Security+	3
INF	134	Server	3
INF	136	Introduction to PowerShell	3
		Computer Support Specialist Electives - 12 Credits	
		Experiential Learning Electives - 3 Credits	
PDV	105	Blueprint for Personal Success	2
		Computer Support Specialist Electives	
INF	122	Introduction to Web Development	
INF	127	Linux+ Part I	
INF	128	Linux+ Part II	
INF	142	Introduction to Storage Solutions	
INF	161	Introduction to Networks	
INF	164	Switching, Routing, and Wireless Essentials	
INF	167	Enterprise Networking, Security, and Automation	
		Experiential Learning Electives	
INF	174	Information Technology Capstone	
INF	175	Information Technology Internship	
Total			**41.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$10,958.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Construction Science, AAS

CRN		COURSE NAME	CREDITS
CCP	100	Introductory Craft Skills	3
CCP	105	Carpentry Basics	4
CCP	110	Floors, Walls, & Ceiling Framing	4
CCP	115	Roof Framing	3
CCP	120	Windows, Doors, & Stairs	3
CCP	124	Exterior Envelope	3
CCP	128	Interior Systems	2
CCP	185	Carpentry Internship I	3
CCP	187	Carpentry Internship II	3
CCP		**Electives Credits - 8 Civil or Commercial Electives**	**8**
CCP		**Elective Credits - 6 (must be CCP 138 & CCP 144 or CCP 134 & CCP 148)**	**6**
SAF	101	Safety Orientation/OSHA 10	1
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Civil Electives			
CCP	134	Introduction to Concrete Construction	
CCP	148	Vertical and Horizontal Formwork	
CCP	154	Finishing Concrete	
Commercial Electives			
CCP	138	Advanced Framing	
CCP	144	Advanced Finish and Trim	
CCP	180	Cabinet Installation	
CCP	155	FEMA Doors & Hardware	
Total			**60.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$13,850.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

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KSDegreeStats.org

Construction Science, TC

CRN		COURSE NAME	CREDITS
CCP	100	Introductory Craft Skills	3
CCP	105	Carpentry Basics	4
CCP	110	Floors, Walls, & Ceiling Framing	4
CCP	115	Roof Framing	3
CCP	120	Windows, Doors, & Stairs	3
CCP	124	Exterior Envelope	3
CCP	128	Interior Systems	2
CCP	185	Carpentry Internship I	3
SAF	101	Safety Orientation/OSHA 10	1
PDV	105	Blueprint for Personal Success	2
CCP Electives Credits - 8 Civil or Commercial			**8**
Civil Electives			
CCP	134	Introduction to Concrete Construction	
CCP	148	Vertical and Horizontal Formwork	
CCP	154	Finishing Concrete	
Commercial Electives			
CCP	138	Advanced Framing	
CCP	144	Advanced Finish and Trim	
CCP	180	Cabinet Installation	
CCP	155	FEMA Doors & Hardware	
Total			**36.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$9,754.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Criminal Justice, AAS

CRN		COURSE NAME	CREDITS
CRJ	101	Introduction to Criminal Justice	3
CRJ	105	Criminal Investigation	3
CRJ	110	Criminal Law	3
CRJ	115	Agency Administration	3
CRJ	120	Juvenile Delinquency and Justice	3
CRJ	125	Law Enforcement Operations and Procedures	3
CRJ	130	Criminal Procedures	3
CRJ	135	Criminal Justice Interview and Report Writing	3
CRJ	140	Professional Responsibility in Criminal Justice	3
CRJ	145	Corrections	3
CRJ	155	Policing Diverse Cultures	3
CRJ	161	Internship in Criminal Justice I	1
CRJ	162	Internship in Criminal Justice II	1
CRJ	163	Internship in Criminal Justice III	1
CRJ	180	KLETC or Equivalent Law Enforcement Academy Training	12
CPR	001	CPR for Healthcare Providers	1
CED	115	Computer Applications	3
ENG	101	Composition I	3
HIS	120	United States History since 1865	3
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Total			**67.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$10,170.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Criminal Justice, COC

CRN		COURSE NAME	CREDITS
CRJ	101	Introduction to Criminal Justice	3
CRJ	135	Criminal Justice Interview and Report Writing	3
CRJ	145	Corrections	3
ENG	101	Composition I	3
		Communication Elective	**3**
Total			**15.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	$2,343.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Criminal Justice, TC

CRN		COURSE NAME	CREDITS
CRJ	101	Introduction to Criminal Justice	3
CRJ	105	Criminal Investigation	3
CRJ	110	Criminal Law	3
CRJ	115	Agency Administration	3
CRJ	120	Juvenile Delinquency and Justice	3
CRJ	125	Law Enforcement Operations and Procedures	3
CRJ	130	Criminal Procedures	3
CRJ	135	Criminal Justice Interview and Report Writing	3
CRJ	140	Professional Responsibility in Criminal Justice	3
CRJ	145	Corrections	3
CRJ	155	Policing Diverse Cultures	3
CRJ	161	Internship in Criminal Justice I	1
CRJ	162	Internship in Criminal Justice II	1
CRJ	163	Internship in Criminal Justice III	1
CED	115	Computer Applications	3
CPR	001	CPR for Healthcare Providers	1
ENG	101	Composition I	3
		Communication Elective	**3**
Total			**46.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$7,221.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Criminal Justice/Technical Studies, AAS

CRN		COURSE NAME	CREDITS
CRJ	101	Introduction to Criminal Justice	3
CRJ	105	Criminal Investigation	3
CRJ	110	Criminal Law	3
CRJ	115	Agency Administration	3
CRJ	120	Juvenile Delinquency and Justice	3
CRJ	125	Law Enforcement Operations and Procedures	3
CRJ	130	Criminal Procedures	3
CRJ	135	Criminal Justice Interview and Report Writing	3
CRJ	140	Professional Responsibility in Criminal Justice	3
CRJ	145	Corrections	3
CRJ	155	Policing Diverse Cultures	3
CRJ	161	Internship in Criminal Justice I	1
CRJ	162	Internship in Criminal Justice II	1
CRJ	163	Internship in Criminal Justice III	1
CPR	001	CPR for Healthcare Providers	1
BUS	104	Introduction to Business	3
BUS	121	Business Communications	3
BUS	125	Business Law	3
BUS	130	Personal Finance	3
BUS	200	Principles of Management	3
CED	115	Computer Applications	3
ENG	101	Composition I	3
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Total			**67.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$10,450.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

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KSDegreeStats.org

Criminal Justice/Technical Studies, AAS

CRN		COURSE NAME	CREDITS
CRJ	101	Introduction to Criminal Justice	3
CRJ	105	Criminal Investigation	3
CRJ	110	Criminal Law	3
CRJ	115	Agency Administration	3
CRJ	120	Juvenile Delinquency and Justice	3
CRJ	125	Law Enforcement Operations and Procedures	3
CRJ	130	Criminal Procedures	3
CRJ	135	Criminal Justice Interview and Report Writing	3
CRJ	140	Professional Responsibility in Criminal Justice	3
CRJ	145	Corrections	3
CRJ	155	Policing Diverse Cultures	3
CRJ	161	Internship in Criminal Justice I	1
CRJ	162	Internship in Criminal Justice II	1
CRJ	163	Internship in Criminal Justice III	1
CPR	001	CPR for Healthcare Providers	1
CED	115	Computer Applications	3
ENG	101	Composition I	3
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
EMS	**105**	**Emergency Medical Technician**	**12**
EMS	**115**	**Tactical Medicine**	**3**
Total			**67.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	$11,268.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

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KSDegreeStats.org

Culinary Arts, AAS

CRN		COURSE NAME	CREDITS
HEM	105	Sanitation and Safety	1
HEM	115	Introduction to the Hospitality Industry	3
CUL	105	Culinary Fundamentals	3
CUL	110	Introduction to Gastronomy & Sustainability	3
CUL	115	Culinary Nutrition	3
CUL	120	Modern Banquet Cookery	3
CUL	130	Culinary Innovation & Sustainability	3
CUL	135	Cuisines and Cultures of the United States	3
CUL	140	Global Cuisines and Cultures	3
CUL	145	Cuisines and Cultures of the Mediterranean	3
CUL	150	Cuisines and Cultures of Northern Europe	3
CUL	155	Cuisines and Cultures of Asia	3
CUL	125	Baking & Pastry Skill Development	3
CUL	160	Garde Manger	3
CUL	165	Culinary Arts Internship	3
		Culinary Arts Electives - 3 credits	**3**
CED	115	Computer Applications	3
ENG	101	Composition I	3
MTH	101	Intermediate Algebra	3
PDV	105	Blueprint for Personal Success	2
SPH	111	Interpersonal Communication	3
		Social Science Elective	**3**
Culinary Arts Electives			
CUL	170	Advanced Baking: Chocolate and Confectionary Techniques	
CUL	175	Advanced Baking: Cakes and Desserts	
CUL	180	Advanced Baking: Breads and Rolls	
Total			**63.00**

LOCATION

WSU Tech NICHE
124 S. Broadway | Wichita, KS 67202
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$13,101.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

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KSDegreeStats.org

Culinary Arts For The Blind And Visually Impaired, TC

CRN		COURSE NAME	CREDITS
CUL	105	Culinary Fundamentals	3
CUL	110	Introduction to Gastronomy & Sustainability	3
CUL	115	Culinary Nutrition	3
CUL	120	Modern Banquet Cookery	3
CUL	125	Baking & Pastry Skill Development	3
CUL	130	Culinary Innovation & Sustainability	3
CUL	165	Culinary Arts Internship	3
HEM	105	Sanitation and Safety	1
HEM	115	Introduction to the Hospitality Industry	3
ENG	101	Composition I	3
Total			**28.00**

LOCATION

WSU Tech NICHE
124 S. Broadway | Wichita, KS 67202
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$5,989.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Culinary Arts, TC

CRN		COURSE NAME	CREDITS
HEM	105	Sanitation and Safety	1
HEM	115	Introduction to the Hospitality Industry	3
CUL	105	Culinary Fundamentals	3
CUL	110	Introduction to Gastronomy & Sustainability	3
CUL	115	Culinary Nutrition	3
CUL	120	Modern Banquet Cookery	3
CUL	125	Baking & Pastry Skill Development	3
CUL	165	Culinary Arts Internship	3
PDV	105	Blueprint for Personal Success	2
SPH	111	Interpersonal Communication	3
MTH	101	Intermediate Algebra	3
Total			**30.00**

LOCATION

WSU Tech NICHE
124 S. Broadway │ Wichita, KS 67202
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$6,044.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

Cyber Security, AAS

CRN	COURSE NAME	CREDITS
INF 105	A+ Certification - Essentials	3
INF 110	A+ Certification - Application	3
INF 112	Network Essentials	3
INF 115	Network+ Part I	3
INF 116	Network+ Part II	3
INF 120	Security+	3
INF 134	Server	3
INF 136	Introduction to PowerShell	3
INF	**Cyber Security Electives - 12 Credits**	**12**
INF	**Information Systems Electives - 6 Credits**	**6**
INF	**Experiential Learning Electives - 3 Credits**	**3**
CED 115	Computer Applications	3
ENG 101	Composition I	3
PDV 105	Blueprint for Personal Success	2
	Communication Elective	**3**
	Math Elective	**3**
	Social Science Elective	**3**

Cyber Security Electives

INF 155	Digital Forensics	
INF 157	Cyber Law and Ethics	
INF 160	Server Security	
INF 165	Advanced Cyber Security	

Experiential Learning Electives

INF 174	Information Technology Capstone	3
INF 175	Information Technology Internship	3

Information Technology Electives

INF 113	Introduction to Programming	
INF 127	Linux+ Part I	
INF 128	Linux+ Part II	
INF 142	Introduction to Storage Solutions	
INF 144	Virtualization	
INF 146	Powershell II	
INF 147	Website Production & Web Management	
INF 155	Digital Forensics	
INF 156	Advanced Web Development (PHP)	
INF 157	Cyber Law and Ethics	
INF 160	Server Security	
INF 161	Introduction to Networks	
INF 164	Switching, Routing, and Wireless Essentials	
INF 165	Advanced Cyber Security	
INF 167	Enterprise Networking, Security, and Automation	
INF 180	Advanced Network Security	
CLD 118	Cloud Computing	
CLD 121	Object-Oriented Programming (JavaScript)	
CLD 122	Introduction to Web Development	
CLD 123	DevNet I	
CLD 126	Test Driven Development (JavaScript)	
CLD 129	Programming Foundations (Swift iOS)	
CLD 131	Continuous Integration Continuous Delivery - CICD	
CLD 137	C# Programming Language	
CLD 138	Object -Oriented Programming (Python)	
CLD 141	Test Driven Development (Python)	
CLD 143	Web Application Development I (HTML/CSS)	
CLD 147	Website Production & Web Management (Word Press)	
CLD 152	Web Application Development II (REACT)	
CLD 153	Multi-Cloud Administration	
CLD 156	Advanced Web Development (PHP)	
CLD 158	Multi-Cloud Development Services	
CLD 166	Cloud Application Development I (REACT on AWS)	
CLD 168	AWS Cloud Practitioner	
CLD 169	Machine Learning and AI Foundations with Predictive Analytics	
CLD 170	Cloud Application Development II (Serverless REACT on AWS)	
CLD 177	AWS Solutions Architect Associate	
CLD 182	Microsoft Azure Administrator	
CLD 185	Virtual Private Cloud Administration	
CLD 187	Cloud Native Infrastructure (Kubernetes)	
CLD 188	Cloud Data and DevOps Specialist (AWS)	
CLD 191	Microsoft Enterprise O365 Administration	
CLD 193	Cloud DevOps Engineer I	
CLD 196	Cloud DevOps Engineer II	
Total		**62.00**

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,139.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

Cyber Security, TC

CRN	COURSE NAME	CREDITS
INF 105	A+ Certification - Essentials	3
INF 110	A+ Certification - Application	3
INF 112	Network Essentials	3
INF 115	Network+ Part I	3
INF 116	Network+ Part II	3
INF 120	Security+	3
INF 134	Server	3
INF 136	Introduction to PowerShell	3
INF	**Cyber Security Electives - 12 Credits**	**12**
INF	**Experiential Learning Electives - 3 Credits**	**3**
PDV 105	Blueprint for Personal Success	2
Cyber Security Electives		
INF 155	Digital Forensics	
INF 157	Cyber Law and Ethics	
INF 160	Server Security	
INF 165	Advanced Cyber Security	
Experiential Learning Electives		
INF 174	Information Technology Capstone	3
INF 175	Information Technology Internship	3
Total		**41.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$10,560.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

Digital Marketing, AAS

CRN		COURSE NAME	CREDITS
DMK	110	Introduction to Media Arts	3
DMK	120	Basic Digital Editing	3
DMK	125	Community Building and Management	3
DMK	135	Social Media Marketing and Management	3
DMK	140	Introduction to Audio/Visual Production	3
DMK	150	Search Engine Optimization & Marketing	3
DMK	160	Introduction to Analytics	3
DMK	163	Introduction to Digital Advertising	3
DMK		**Experiential Learning Electives- 4 Credits**	**4**
BUS	135	Introduction to Public Relations	3
BUS	140	Principles of Marketing	3
CLD	122	Introduction to Web Development	3
CLD	147	Website Production & Management (Word Press)	3
OPM	115	Introduction to Project Management	3
ENG	101	Composition I	3
ENG	120	Composition II	3
PDV	105	Blueprint for Personal Success	2
SPH	101	Public Speaking	3
		Humanities Elective	**3**
		Math Elective	**3**
Experiential Learning Electives			
DMK	170	Digital Marketing Capstone	
DMK	175	Digital Marketing Internship	
Total			**60.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$9,532.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

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KSDegreeStats.org

Digital Marketing, TC

CRN		COURSE NAME	CREDITS
DMK	110	Introduction to Media Arts	3
DMK	120	Basic Digital Editing	3
DMK	125	Community Building and Management	3
DMK	135	Social Media Marketing and Management	3
DMK	140	Introduction to Audio/Visual Production	3
DMK	150	Search Engine Optimization & Marketing	3
DMK	160	Introduction to Analytics	3
DMK	163	Introduction to Digital Advertising	3
CLD	122	Introduction to Web Development	3
CLD	147	Website Production & Management (Word Press)	3
BUS	140	Principles of Marketing	3
ENG	101	Composition I	3
ENG	120	Composition II	3
PDV	105	Blueprint for Personal Success	2
Total			**41.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$6,571.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

Eddy Current Technician, COC

CRN		COURSE NAME	CREDITS
NDT	110	Eddy Current Level I	3
NDT	111	Eddy Current Level II	3
Total			**6.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$1,686.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

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KSDegreeStats.org

Emergency Medical Services - High School, COC

CRN		COURSE NAME	CREDITS
EMS	103	EMT 1	6
EMS	104	EMT 2	6
Total			**12.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	**$1,752.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

Emergency Medical Services, TC

CRN		COURSE NAME	CREDITS
EMS	115	Tactical Medicine	3
EMS		**Technical Elective - 12 Credits**	**12**
CPR	001	CPR for Healthcare Providers	1
PDV	105	Blueprint for Personal Success	2
Technical Electives			
EMS	103	EMT 1	
EMS	104	EMT 2	
EMS	105	Emergency Medical Technician	
Total			**18.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$3,101.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Emergency Medical Technician, COC

CRN	COURSE NAME	CREDITS
EMS	**Technical Electives - 12 Credits**	**12**
Technical Electives		
EMS 103	EMT 1	
EMS 104	EMT 2	
EMS 105	Emergency Medical Technician	
Total		**12.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$2,080.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

CATIA, COC

CRN		COURSE NAME	CREDITS
MCD	104	Blueprint Reading for Drafting	2
CAT	101	CATIA Part Design & Sketcher	4
CAT	105	CATIA Assembly Design	4
		Technical Elective	**4**
Technical Elective			
CAT	102	CATIA Drafting	
CAT	103	CATIA 3D Tolerancing & Annotations	
CAT	110	CATIA Wireframe & Surface	
CAT	115	CATIA Prismatic Machining	
Total			**14.00**

LOCATION

National Center for Aviation Training
4004 North Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	$4,531.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

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KSDegreeStats.org

Engineering Design Technology, AAS

CRN		COURSE NAME	CREDITS
CAT	101	CATIA Part Design & Sketcher	4
CAT	103	CATIA 3D Tolerancing & Annotations	4
CAT	105	CATIA Assembly Design	4
CAT	110	CATIA Wireframe & Surfaces	4
MCD	101	Introduction to CAD I	3
MCD	102	Introduction to CAD II	2
MCD	104	Blueprint Reading for Drafting	2
MCD	106	Precision Measuring	2
MCD	115	Machine Drafting & Design	3
MCD	121	Descriptive Geometry	3
MCD	124	Advanced AutoCAD	4
MCD	137	Introduction to 3D Printing	2
MCD		**Technical Electives - 3 Credits**	**3**
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Science Elective	**5**
		Social Science Elective	**3**
Technical Electives			
CAT	102	CATIA Drafting	
CAT	115	CATIA Prismatic Machining	
CAT	124	CATIA Surface Machining	
MCD	130	Basic Solidworks	
MCD	133	Advanced Solidworks	
MCD	140	Drafting Technology Internship	
MCD	201	Advanced Measuring	
MCD	210	Advanced Measuring	
Total			**65.00**

LOCATION

National Center for Aviation Training
4004 North Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,743.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Engineering Design Technology, TC

CRN		COURSE NAME	CREDITS
CAT	101	CATIA Part Design & Sketcher	4
CAT	103	CATIA 3D Tolerancing & Annotations	4
CAT	105	CATIA Assembly Design	4
CAT	110	CATIA Wireframe & Surfaces	4
MCD	101	Introduction to CAD I	3
MCD	102	Introduction to CAD II	2
MCD	104	Blueprint Reading for Drafting	2
MCD	106	Precision Measuring	2
MCD	115	Machine Drafting & Design	3
MCD	121	Descriptive Geometry	3
MCD	124	Advanced AutoCAD	4
MCD	137	Introduction to 3D Printing	2
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
Total			**45.00**

LOCATION

National Center for Aviation Training
4004 North Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$11,761.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Fundamentals of Aerospace Manufacturing, TC

CRN		COURSE NAME	CREDITS
AER	150	Assembly Overview I	3
AER	167	Basic Drilling & Riveting/Ground Stud Installation	2
AER	168	Wire Installation Drawings	1
AER	175	Wire Bundle Basics	1
AVC	104	Quality Control Concepts	1
AVC	105	Aircraft Familiarization	1
AVC	107	Fundamentals for Aerospace Manufacturing	1
AVC	108	Aircraft Systems & Components	4
AVC	110	Safety/OSHA 10	1
AVC	112	Blueprint Reading	2
AVC	125	Bonding and Grounding	1
AVC	135	Hand Tools	1
AVC	140	Electrical Bonding & Grounding	1
AVC	145	Power Island	1
Total			**21.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$5,066.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Healthcare Admin & Management, AAS

CRN		COURSE NAME	CREDITS
PNR	119	KSPN Fundamentals of Pharmacology and Safe Medication Administration	2
PNR	120	KSPN Foundations of Nursing	4
PNR	121	KSPN Foundations of Nursing Clinical	2
PNR	128	KSPN Nursing Care of Adults I	5
PNR	129	KSPN Nursing Care of Adults I Clinical	3
PNR	130	KSPN Maternal Child Nursing	2
PNR	131	KSPN Maternal Child Nursing Clinical	1
PNR	135	KSPN Mental Health Nursing	2
PNR	136	Transition to Nursing	2
PNR	138	KSPN Nursing Care of Adults II	5
PNR	139	KSPN Nursing Care of Adults II Clinical	2
PNR	141	KSPN Care of Aging Adults	2
PNR	166	KSPN Leadership, Roles, and Issues	2
PNR	170	Healthcare Practice Management	3
PNR	180	Healthcare Issues	3
		Technical Elective - 4 Credits	**4**
ALH	110	Principles of Nutrition	3
BIO	150	Human Anatomy & Physiology	5
ENG	101	Composition I	3
PSY	101	General Psychology	3
PSY	120	Developmental Psychology	3
		Communication Elective	**3**
		Math Elective	**3**
Technical Electives			
BIO	160	Microbiology	
GRA	101	Certified Nurse Aide	
PNR	175	Healthcare Management Research	
Total			**67.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$15,850.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Home Health Aide, COC

CRN		COURSE NAME	CREDITS
HHA	100	Home Health Aide	2.00
Total			**2.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$352.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

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KSDegreeStats.org

Industrial Automation Machine Maintenance, AAS

CRN		COURSE NAME	CREDITS
IND	105	Industrial Automation Test Equipment	3
IND	106	Direct & Alternating Current	4
IND	109	Basic Industrial Programmable Logic Controls	4
IND	111	Foundations of Manufacturing	3
IND	116	Advanced Motor Controls	3
IND	117	Variable Speed Motor Control	3
IND	121	Mechanical Systems Reliability	3
IND	123	Industrial Fluid Power	4
IND	130	Mechanical Systems	3
IND	131	Industrial Programmable Logic Controls (PLC)	3
IND	132	Industrial Process Control	3
		Technical Electives - 6 Credits	**6**
AVC	110	Safety/OSHA 10	1
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Social Science Elective	**3**
		Math Elective	**3**
Technical Electives			
IND	139	CNC Operations for Maintenance Applications	
IND	145	Advanced Technologies in Predictive Maintenance	
ROB	100	Introduction to Robotics	
Total			**60.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$13,653.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Industrial Automation Machine Maintenance, TC

CRN		COURSE NAME	CREDITS
IND	105	Industrial Automation Test Equipment	3
IND	106	Direct & Alternating Current	4
IND	109	Basic Industrial Programmable Logic Controls	4
IND	111	Foundations of Manufacturing	3
IND	116	Advanced Motor Controls	3
IND	117	Variable Speed Motor Control	3
IND	121	Mechanical Systems Reliability	3
IND	123	Industrial Fluid Power	4
IND	130	Mechanical Systems	3
IND	131	Industrial Programmable Logic Controls (PLC)	3
IND	132	Industrial Process Control	3
		Technical Electives - 6 Credits	**6**
AVC	110	Safety/OSHA 10	1
PDV	105	Blueprint for Personal Success	2
		Math Elective	**3**
Technical Electives			
IND	139	CNC Operation for Maintenance Applications	
IND	145	Advanced Technologies in Predictive Maintenance	
ROB	100	Introduction to Robotics	
Total			**48.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	$11,815.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Interior Design, AAS

CRN		COURSE NAME	CREDITS
INT	101	Interior Design Fundamentals	3
INT	105	Blueprint Reading for Interior Design	3
INT	110	Color Theory	3
INT	126	Textiles	3
INT	127	Materials for Interior Environments	3
INT	141	History of Furniture & Architecture	3
INT	155	Lighting Technologies	3
INT	160	Design Studio I	3
INT	165	Design Studio II	3
INT	166	AutoCAD for Interior Design	5
INT	168	Basic Chief Architect for Interior Design	3
INT	170	Business Practices & Portfolio Development	4
INT	173	Design Studio III	3
INT	190	Drafting for Interiors	3
INT	192	Illustration for Interior Design	3
INT	193	Rendering for Interior Design	3
INT	196	Interior Design Codes & Standards	3
INT	218	Kitchen & Bath Design	3
ART	100	Art Appreciation	3
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
SPH	101	Public Speaking	3
		Math Elective	**3**
Total			**74.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$12,540.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Introduction to Manufacturing, COC

CRN		COURSE NAME	CREDITS
AVC	102	Precision Instruments	1
AVC	104	Quality Control Concepts	1
AVC	110	Safety/OSHA 10	1
AVC	112	Blueprint Reading	2
MCD	106	Precision Measuring	2
MMG	131	Metallurgy	1
MFG	**125**	**Experiential Learning Electives - 2 Credits**	**2**
PDV	105	Blueprint for Personal Success	2
Experiential Learning Electives			
MFG	125	Manufacturing Internship	
Total			**12.00**

LOCATION

National Center for Aviation Training
4004 North Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$2,679.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

IT Essentials, TC

CRN		COURSE NAME	CREDITS
INF	105	A+ Certification - Essentials	3
INF	110	A+ Certification - Application	3
INF	112	Network Essentials	3
INF	115	Network+ Part I	3
INF	116	Network+ Part II	3
INF	120	Security+	3
PDV	105	Blueprint for Personal Success	2
Total			**20.00**

LOCATION

City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$6,066.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Logistics and Supply Chain Management, AAS

CRN		COURSE NAME	CREDITS
LGM	101	Principles of Logistics and Supply Chain Management	3
LGM	102	Inventory Control	3
LGM	103	Contracts and Freight Claims	3
LGM	104	Computerized Logistics	3
LGM	105	Warehouse Management	3
LGM	106	Transportation and Traffic Management	3
LGM	107	Introduction to Purchasing	3
LGM	108	International Logistics	3
LGM		**Experiential Learning Elective 3 Credits**	**3**
BUS	104	Introduction to Business	3
OPM	115	Introduction to Project Management	3
		Electives - 9 Credits	**9**
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
PHL	110	Ethics	3
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**

Experiential Learning Electives

LGM	190	Logistics and Supply Chain Internship	
LGM	196	Capstone In Logistics & Supply Chain Management	

Elective

ACC	105	Fundamentals of Accounting	
CED	117	Advanced Excel	
ECO	105	Principles of Macroeconomics	
ECO	110	Principles of Microeconomics	
OPM	105	Operational Management for Organizational Success	
PHR	105	Negotiations and Relationship Management LEN 100 or MFG 100 Or OPM 100	
Total			**62.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	**$9,983.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

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Logistics and Supply Chain Management, TC

CRN		COURSE NAME	CREDITS
LGM	101	Principles of Logistics and Supply Chain Management	3
LGM	102	Inventory Control	3
LGM	104	Computerized Logistics	3
LGM	105	Warehouse Management	3
LGM	106	Transportation and Traffic Management	3
LGM	108	International Logistics	3
LGM		**Experiential Learning Elective**	**3**
BUS	104	Introduction to Business	3
ENG	101	Composition I	3
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Experiential Learning Electives			
LGM	190	Logistics and Supply Chain Internship	
LGM	196	Capstone In Logistics & Supply Chain Management	
Total			**32.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$5,358.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Machining Technology, AAS

CRN		COURSE NAME	CREDITS
MMG	113	Print Reading	3
MMG	116	Quality Control & Inspection	1
MMG	130	Bench Work	1
MMG	131	Metallurgy	1
MMG	132	Machine Tool Processes	1
MMG	135	Machining Fundamentals	3
MMG	140	Metrology	4
MMG	154	Multi-Cell Operations	4
MMG	155	CNC Lathe	3
MMG	156	CNC Operations	3
MMG	160	CNC Milling	3
MMG	164	Advanced Machining Processes	3
MMG	170	Mastercam Mill 2 Axis	4
MMG	173	G D & T for Machining	3
MMG	180	Mastercam 4 & 5 Axis Mill	4
MMG	184	Multi-Axis Milling	4
AVC	110	Safety/OSHA 10	1
CED	115	Computer Applications	3
ENG	101	Composition I	3
MCD	106	Precision Measuring	2
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Total			**65.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$16,159.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Machining Technology, TC

CRN		COURSE NAME	CREDITS
MMG	113	Print Reading	3
MMG	116	Quality Control & Inspection	1
MMG	130	Bench Work	1
MMG	131	Metallurgy	1
MMG	135	Machining Fundamentals	3
MMG	140	Metrology	3
MMG	155	CNC Lathe	3
MMG	156	CNC Operations	3
MMG	160	CNC Milling I	3
MMG	170	Mastercam Mill 2 Axis	4
MMG	184	Multi-Axis Milling	4
AVC	110	Safety/OSHA 10	1
MCD	106	Precision Measuring	2
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Total			**38.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$10,210.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Magnetic Particle Technician, COC

CRN | COURSE NAME | CREDITS

CRN		COURSE NAME	CREDITS
NDT	101	Magnetic Particle Testing	3
NDT	114	Visual Inspection	2
Total			**5.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$1,385.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Manufacturing Assembly, TC

CRN		COURSE NAME	CREDITS
MNF	110	CNC Basics	2
MNF	113	Blueprint Basics For Manufacturing	2
MNF	115	Forklift Operations	1
MNF	120	Manufacturing Processes & Production I	3
MNF	163	Production Assembly	3
AVC	104	Quality Control Concepts	1
AVC	110	Safety/OSHA 10	1
AVC	135	Hand Tools	1
AVC	145	Power Island	1
MCD	106	Precision Measuring	2
MCD	130	Basic Solidworks	3
MMG	131	Metallurgy	1
PDV	105	Blueprint for Personal Success	2
MTH	020	Math Elective	3
Total			**26.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$5,347.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Manufacturing Production And Maintenance, TC

CRN		COURSE NAME	CREDITS
MNF	110	CNC Basics	2
MNF	113	Blueprint Basics For Manufacturing	2
MNF	115	Forklift Operations	1
MNF	120	Manufacturing Processes & Production I	3
MNF	125	Maintenance Training	4
MNF	130	Manufacturing Processes & Production II	3
MNF	135	Electrical Concepts	3
MNF	150	Automation in Manufacturing	3
MNF	140	Basic PLC's	3
MNF	145	Fluid	2
MNF	160	Manufacturing Processes & Production III	3
MNF	163	Production Assembly	3
MFT		**Manufacturing Technology Elective - 3 Credits**	**3**
AVC	104	Quality Control Concepts	1
AVC	110	Safety/OSHA 10	1
AVC	135	Hand Tools	1
AVC	145	Power Island	1
MCD	106	Precision Measuring	2
MCD	137	Introduction to 3D Printing	2
MMG	131	Metallurgy	1
ROB	100	Introduction to Robotics	3
PDV	105	Blueprint for Personal Success	2
		Math Elective	**3**
Technical Electives			
MNF	155	Digital Electronics	
MNF	165	Automated Supply Chain	
MNF	170	Drones and Data Analysis	
MNF	175	Manufacturing Technology Applied Learning Experience	
Total			**53.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,092.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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KSDegreeStats.org

Manufacturing Production, TC

CRN		COURSE NAME	CREDITS
MNF	110	CNC Basics	2
MNF	113	Blueprint Basics For Manufacturing	2
MNF	115	Forklift Operations	1
MNF	125	Maintenance Training	4
MNF	120	Manufacturing Processes & Production I	3
MNF	130	Manufacturing Processes & Production II	3
MNF	163	Production Assembly	3
AVC	104	Quality Control Concepts	1
AVC	110	Safety/OSHA 10	1
AVC	135	Hand Tools	1
AVC	145	Power Island	1
MCD	106	Precision Measuring	2
MCD	137	Introduction to 3D Printing	2
MMG	131	Metallurgy	1
PDV	105	Blueprint for Personal Success	2
		Math Elective	3
Total			**32.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$7,832.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Manufacturing Technology, AAS

CRN		COURSE NAME	CREDITS
MNF	110	CNC Basics	2
MNF	113	Blueprint Basics For Manufacturing	2
MNF	115	Forklift Operations	1
MNF	120	Manufacturing Processes & Production I	3
MNF	125	Maintenance Training	4
MNF	130	Manufacturing Processes & Production II	3
MNF	135	Electrical Concepts	3
MNF	140	Basic PLC's	3
MNF	145	Fluid	2
MNF	150	Automation in Manufacturing	3
MNF	160	Manufacturing Processes & Production III	3
MNF	163	Production Assembly	3
MNF Manufacturing Technology Electives - 3 Credits			**3**
AVC	104	Quality Control Concepts	1
AVC	110	Safety/OSHA 10	1
AVC	135	Hand Tools	1
AVC	145	Power Island	1
MCD	106	Precision Measuring	2
MCD	137	Introduction to 3D Printing	2
MMG	131	Metallurgy	1
ROB	100	Introduction to Robotics	3
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Social Science Elective	**3**
		Math Elective	**3**
		Communication Elective	**3**
Technical Electives			
MNF	155	Digital Electronics	
MNF	165	Automated Supply Chain	
MNF	170	Drones and Data Analysis	
MNF	175	Manufacturing Technology Applied Learning Experience	
Total			**64.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$15,931.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

90

Multi Axis Machining, TC

CRN		COURSE NAME	CREDITS
MMG	113	Print Reading	3
MMG	116	Quality Control & Inspection	1
MMG	130	Bench Work	1
MMG	131	Metallurgy	1
MMG	132	Machine Tool Processes	1
MMG	135	Machining Fundamentals	3
MMG	140	Metrology	3
MMG	154	Multi-Cell Operators	4
MMG	155	CNC Lathe	3
MMG	156	CNC Operations	3
MMG	160	CNC Milling I	3
MMG	164	Advanced Machining Processes	3
MMG	170	Mastercam Mill 2 Axis	4
MMG	173	G D & T for Machining	3
MMG	180	Mastercam 4 & 5 Axis Mill	4
MMG	184	Multi-Axis Milling	4
AVC	110	Safety/OSHA 10	1
MCD	106	Precision Measuring	2
PDV	105	Blueprint for Personal Success	2
		Math Elective	
Total			**53.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,320.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please
contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Nondestructive Testing, AAS

CRN		COURSE NAME	CREDITS
NDT	100	Penetrant Inspection	3
NDT	101	Magnetic Particle Testing	3
NDT	102	Radiation Safety	3
NDT	103	Radiographic Testing Level II	3
NDT	107	Radiographic Testing Level I	3
NDT	110	Eddy Current Level I	3
NDT	111	Eddy Current Level II	3
NDT	112	Ultrasonic Testing Method Level I	3
NDT	113	Ultrasonic Testing Method Level II	3
NDT	114	Visual Inspection	2
NDT	123	Advanced Ultrasonic Testing Methods	5
AVC	102	Precision Instruments	1
AVC	110	Safety/OSHA 10	1
CFT	101	Introduction to Composites	2
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
PHS	110	Physical Science	5
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Total			**60.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,566.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Nondestructive Testing, TC

CRN		COURSE NAME	CREDITS
NDT	100	Penetrant Inspection	3
NDT	101	Magnetic Particle Testing	3
NDT	102	Radiation Safety	3
NDT	103	Radiographic Testing Level II	3
NDT	107	Radiographic Testing Level I	3
NDT	110	Eddy Current Level I	3
NDT	111	Eddy Current Level II	3
NDT	112	Ultrasonic Testing Method Level I	3
NDT	113	Ultrasonic Testing Method Level II	3
NDT	114	Visual Inspection	2
NDT	123	Advanced Ultrasonic Testing Methods	5
AVC	102	Precision Instruments	1
AVC	110	Safety/OSHA 10	1
CFT	101	Introduction to Composites	2
CED	115	Computer Applications	3
PDV	105	Blueprint for Personal Success	2
		Math Elective	**3**
Total			**46.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$12,465.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Operations Management And Supervision, AAS

CRN		COURSE NAME	CREDITS
ACC	105	Fundamentals of Accounting	3
ACC	160	Principles of Accounting I	3
ACC	170	Principles of Accounting II	3
BUS	104	Introduction to Business	3
BUS	125	Business Law	3
BUS	140	Principles of Marketing	3
BUS	200	Principles of Management	3
CED	115	Computer Applications	3
ECO	105	Principles of Macroeconomics	3
ECO	110	Principles of Microeconomics	3
HIS	120	United States History since 1865	3
ENG	101	Composition I	3
LEN	100	Lean for Operations	3
OPM	105	Operations Management for Organizational Success	3
OPM	110	Introduction to Supply Chain Management	3
OPM	115	Introduction to Project Management	3
MTH	112	College Algebra	3
PSY	101	General Psychology	3
SPH	101	Public Speaking	3
		Science Elective	**5**
Total			**62.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$9,390.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Operations Management And Supervision, TC

CRN		COURSE NAME	CREDITS
ACC	105	Fundamentals of Accounting	3
ACC	160	Principles of Accounting I	3
ACC	170	Principles of Accounting II	3
BUS	104	Introduction to Business	3
BUS	125	Business Law	3
BUS	200	Principles of Management	3
CED	115	Computer Applications	3
OPM	105	Operations Management for Organizational Success	3
OPM	110	Introduction to Supply Chain Management	3
OPM	115	Introduction to Project Management	3
SPH	101	Public Speaking	3
Total			**33.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$4,962.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Operations Management, COC

CRN		COURSE NAME	CREDITS
BUS	104	Introduction to Business	3
LEN	100	Lean for Operations	3
OPM	105	Operations Management for Organizational Success	3
OPM	110	Introduction to Supply Chain Management	3
OPM	115	Introduction to Project Management	3
Total			**15.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$2,305.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

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KSDegreeStats.org

Patient Care Technician, TC

CRN		COURSE NAME	CREDITS
CPR	001	CPR for Healthcare Providers	1
GRA	101	Certified Nurse Aide	5
GRA	119	Medication Aide	5
HHA	100	Home Health Aide	2
PCT	110	Phlebotomy and Laboratory Procedures	4
ALH	101	Medical Terminology	3
ALH	131	Diseases, Disorders & Diagnostic Procedures	2
ALH	155	Pharmacology for Allied Health	3
PDV	105	Blueprint for Personal Success	2
PCT	100	EKG for Healthcare Providers	4
ALH	110	Principles of Nutrition	3
Total			**34.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$6,226.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Penetrant Technician, COC

CRN		COURSE NAME	CREDITS
NDT	114	Visual Inspection	2
NDT	100	Penetrant Inspection	3
Total			**5.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$1,395.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Practical Nurse, TC

CRN		COURSE NAME	CREDITS
PNR	119	KSPN Fundamentals of Pharmacology and Safe Medication Administration	2
PNR	120	KSPN Foundations of Nursing	4
PNR	121	KSPN Foundations of Nursing Clinical	2
PNR	128	KSPN Nursing Care of Adults I	5
PNR	129	KSPN Nursing Care of Adults I Clinical	3
PNR	130	KSPN Maternal Child Nursing	2
PNR	131	KSPN Maternal Child Nursing Clinical	1
PNR	135	KSPN Mental Health Nursing	2
PNR	136	Transition to Nursing	2
PNR	138	KSPN Nursing Care of Adults II	5
PNR	139	KSPN Nursing Care of Adults II Clinical	2
PNR	141	KSPN Care of Aging Adults	2
PNR	166	KSPN Leadership, Roles, and Issues	2
ALH	110	Principles of Nutrition	3
BIO	150	Human Anatomy & Physiology	5
PSY	101	General Psychology	3
PSY	120	Developmental Psychology	3
Total			**48.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$12,594.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Private Security Officer Training, COC

CRN		COURSE NAME	CREDITS
PST	110	Private Security Officer Training - Basic	3
Total			**3.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	**$175.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Process Mechanic Painter, TC

CRN		COURSE NAME	CREDITS
ACP	100	Introduction to Coatings & Paint Technology	3
ACP	101	Surface Preparation & Coatings	4
ACP	104	Specialized Coating Processes	3
AVC	110	Safety/OSHA 10	1
AVC	112	Blueprint Reading	2
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Total			**18.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$4,691.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

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Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for
program admission requirements.

KSDegreeStats.org

Professional Pilot, AAS

CRN		COURSE NAME	CREDITS
PLT	104	Introduction to Aviation	3
PLT	112	Private Pilot Flight Lab	3
PLT	116	Aviation Weather	3
PLT	120	Instrument Regulations and Procedures	3
PLT	128	Instrumental Flight Lab	3
PLT	130	Aerodynamics and Aircraft Performance	2
PLT	132	Aviation Safety and Human Factors	3
PLT	134	Aircraft Systems for Pilots	2
PLT	136	Crew Resource Management	2
PLT	144	Introduction to Commercial Flight	2
PLT	146	Air Traffic Control and Airspace	2
PLT	152	Commercial Flight I	3
PLT	154	Aviation Law and Regulations	2
PLT	156	Multiengine Aircraft Operation	1
PLT	160	Multiengine Flight Lab	2
PLT	164	Commercial Flight II	3
PLT	148	Simulated Flight Lab III	1
PLT	156	Multiengine Aircraft Operation	2
PLT	160	Multiengine Flight Lab	1
PLT	168	Certified Flight Instruction	5
PLT	176	Certified Flight Instruction Lab	1
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Total			**60.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

AAS Flight Hours and Estimated Costs

License/ Rating	Minimum Flight Hours	Estimated Student Flight Fees*
Semester one Private Pilot	45	$12,964
Semester two Instrument Pilot	40	$9,748
Semester three Commercial Pilot	120	$29,686
Semester four Multiengine	20	$9,700
Semester four Certified Flight Instructor	25	$6,900

Tuition and Fees	**$20,672.00**
Flight Hours	**$68,998.00**
Program Total	**$89,670.00**

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Professional Pilot, Certified Flight Instructor Rating, COC

CRN		COURSE NAME	CREDITS
PLT	168	Certified Flight Instruction	4
PLT	176	Certified Flight Instruction Lab	2
Total			**6.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	**$9,218.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Professional Pilot, Commercial Pilot Rating, COC

CRN		COURSE NAME	CREDITS
PLT	144	Introduction to Commercial Flight	3
PLT	152	Commercial Flight Lab	3
Total			**6.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$32,072.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Professional Pilot, Instrument Rating, COC

CRN		COURSE NAME	CREDITS
PLT	120	Instrument Regulations and Procedures	3
PLT	128	Basic Attitude Instrument Flying	3
Total			**6.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	**$12,066.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Professional Pilot, Multiengine Rating, COC

CRN | COURSE NAME | CREDITS

CRN		COURSE NAME	CREDITS
PLT	156	Multiengine Aircraft Operation	2
PLT	160	Multiengine Flight Lab	1
Total			**3.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$11,004.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

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from WSU Tech graduates.

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KSDegreeStats.org

Professional Pilot, Private Pilot Rating, COC

CRN		COURSE NAME	CREDITS
PLT	104	Introduction to Aviation	3
PLT	112	Private Pilot Flight Lab	3
Total			**6.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$17,402.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Radiography Technician, COC

CRN		COURSE NAME	CREDITS
NDT	102	Radiation Safety	3
NDT	107	Radiographic Testing Level I	3
NDT	103	Radiographic Testing Level II	3
		Math Elective	3
Total			**12.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$3,175.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Registered Nurse, AAS

CRN		COURSE NAME	CREDITS
ADN	120	Introduction to Nursing Concepts	1
ADN		**Technical Electives - 17 Credits (ADN 130, 140, 150, 160, 170 Or ADN 110 and LPN Courses)**	**20**
ADN	180	Client Care Concepts II	6
ADN	190	Professional Nursing Concepts II	4
ADN	200	Client Care Concepts III	6
ADN	210	Transition to Practice	4
Electives - 9 Credits			**9**
BIO	150	Human Anatomy & Physiology	5
ALH	175	Pathophysiology	4
ENG	101	Composition I	3
PSY	101	General Psychology	3
Technical Electives			
ADN	130	Foundational Concepts in Nursing	
ADN	140	Pharmacological Concepts in Nursing I	
ADN	150	Professional Nursing Concepts I	
ADN	160	Client Care Concepts I	
ADN	170	Pharmacological Concepts in Nursing II	
ADN	110	Concepts of Professional Nursing: Transitioning from LPN to RN	
LPN Electives - 17 Credits (PNR 166, 139, 138, 130, 131, 135, 141)			
Electives			
ALH	110	Principles of Nutrition	
SOC	101	Principles of Sociology	
PSY	120	Developmental Psychology	
ALH	101	Medical Terminology	
Total			**65.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,358.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Robotics, AAS

CRN		COURSE NAME	CREDITS
ROB	100	Introduction to Robotics	3
ROB	103	Applied Robotics Lab I	4
ROB	104	Robotics Simulation	2
ROB	106	Robotics Controller Maintenance	1
ROB	115	Introduction to Programming Robots in ROS	4
ROB	118	Basic Circuits	3
ROB	120	IoT Fundamentals: Introduction to the Internet of Things	1
ROB	124	Robotic Navigation	2
ROB	128	Basic PLC	3
ROB	130	IoT Fundamentals: Connected Things	3
ROB	134	Robotic Perception and Manipulation	4
ROB	138	Advanced PLC	3
ROB	140	IoT Fundamentals: Big Data Analytics	3
ROB	145	Applied Robotics Lab II	2
ROB		**Robotics Electives - 6 Credits**	**6**
ROB		**Experiential Learning Elective - 3 Credits**	**3**
CED	115	Computer Applications	3
ENG	101	Composition I	3
MTH	112	College Algebra	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Social Science Elective	**3**
Experiential Learning Electives			
ROB	170	Robotics Internship	
ROB	172	Robotics Capstone	
Robotics Electives			
ROB	155	Advanced Industrial Workcell Programming	
ROB	144	Machine Learning for Robotics	
ROB	150	IoT Security	
ROB	148	PLC System Design and Simulation	
Total			**64.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,230.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Robotics, TC

CRN		COURSE NAME	CREDITS
ROB	100	Introduction to Robotics	3
ROB	103	Applied Robotics Lab I	4
ROB	106	Robotics Controller Maintenance	1
ROB	104	Robotics Simulation	2
ROB	145	Applied Robotics Lab II	2
ROB	138	Advanced PLC	3
ROB	118	Basic Circuits	3
ROB	128	Basic PLC	3
ROB	140	IoT Fundamentals: Big Data Analytics	3
ROB	130	IoT Fundamentals: Connected Things	3
ROB	120	IoT Fundamentals: Introduction to the Internet of Things	1
ROB	115	Introduction to Programming Robots in ROS	4
ROB	134	Robotic Perception and Manipulation	4
ROB	124	Robotic Navigation	2
PDV	105	Blueprint for Personal Success	2
Total			**40.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$11,342.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Surgical Technology, AAS

CRN		COURSE NAME	CREDITS
SGT	101	Introduction to Surgical Technology	4
SGT	107	Pharmacology for Surgical Technology	3
SGT	115	Surgical Procedures I	5
SGT	119	Surgical Technology - Clinical Experience I	6
SGT	120	Principles and Practices in Surgical Technology	5
SGT	125	Surgical Procedures II	5
SGT	129	Surgical Technology - Clinical Experience II	7
SGT	140	Principles and Practices in Surgical Technology Lab	3
SGT	145	ST Certification Review	1
ALH	101	Medical Terminology	3
BIO	150	Human Anatomy & Physiology	5
BIO	160	Microbiology	5
CPR	001	CPR for Healthcare Providers	1
ENG	101	Composition I	3
		Communication Elective	**3**
		Electives - 3 credits	**3**
		Math Elective	**3**
Electives			
PSY	101	General Psychology	
SOC	101	Principles of Sociology	
Total			**65.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$16,405.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Tooling and Fixture Fabrication, AAS

CRN		COURSE NAME	CREDITS
TFF	110	Tap and Die	1
TFF	115	Hand and Power Tools for Aerospace Tooling	1
TFF	120	Metrology	4
TFF	125	Tooling Capstone	4
TFF	135	Direct & Alternating Current	4
TFF		**Experiential Learning Elective – 5 credits**	**5**
AER	106	Aerospace Manufacturing Tooling Orientation	1
AER	150	Assembly Overview I	3
AVC	103	Geometric Dimensioning & Tolerancing	1
AVC	104	Quality Control Concepts	1
AVC	107	Fundamentals for Aerospace Manufacturing	1
AVC	110	Safety/OSHA 10	1
CWG	105	Welding Safety & Orientation	1
CWG	110	Welding Applications	4
MCD	101	Introduction to CAD I	3
MCD	102	Introduction to CAD II	2
MCD	106	Precision Measuring	2
MMG	113	Print Reading	3
MMG	115	Machining I	3
MMG	126	Machining II	3
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Experiential Learning Electives			
TFF	150	Fixture Construction	
TFF	155	Tooling and Fixture Fabrication Capstone	
Total			**65.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$16,358.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Tooling and Fixture Fabrication, TC

CRN		COURSE NAME	CREDITS
TFF	110	Tap and Die	1
TFF	115	Hand and Power Tools for Aerospace Tooling	1
TFF	120	Metrology	4
TFF	125	Tooling Capstone	4
TFF	135	Direct & Alternating Current	4
TFF		**Experiential Learning Elective - 5 Credits**	**5**
AER	106	Aerospace Manufacturing Tooling Orientation	1
AER	150	Assembly Overview I	3
AVC	103	Geometric Dimensioning & Tolerancing	1
AVC	104	Quality Control Concepts	1
AVC	107	Fundamentals for Aerospace Manufacturing	1
AVC	110	Safety/OSHA 10	1
CWG	105	Welding Safety & Orientation	1
CWG	110	Welding Applications	4
MCD	101	Introduction to CAD I	3
MCD	102	Introduction to CAD II	2
MCD	106	Precision Measuring	2
MMG	113	Print Reading	3
MMG	115	Machining I	3
MMG	126	Machining II	3
PDV	105	Blueprint for Personal Success	2
Experiential Learning Electives			
TFF	150	Fixture Construction	
TFF	155	Tooling And Fixture Fabrication Capstone	
Total			**50.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,058.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Ultrasonic Technician, COC

CRN		COURSE NAME	CREDITS
NDT	112	Ultrasonic Testing Method Level I	3
NDT	113	Ultrasonic Testing Method Level II	3
NDT	123	Advanced Ultrasonic Testing Methods	5
Total			**11.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$3,191.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Drone Technology, AAS

CRN		COURSE NAME	CREDITS
UAS	105	Fundamentals of Drone Technology	2
UAS	110	AC/DC	4
UAS	115	Ground School	3
UAS	120	Communication/Navigation	3
UAS	125	GIS I	3
UAS	130	MultiRotor I	3
UAS	135	Flight Planning	2
UAS	140	MultiRotor II	3
UAS	145	GIS II	3
UAS	150	Photogrammetry	3
UAS	155	Sensor Packages	4
UAS	160	Design and Programming	4
UAS	165	FixedWing UAS Flight	3
UAS		Experiential Learning Electives - 4	4
CED	115	Computer Applications	3
ENG	101	Composition I	3
MTH	112	College Algebra	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Social Science Elective	**3**
Total			**61.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$14,136.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

KSDegreeStats.org

Drone Technology, TC

CRN		COURSE NAME	CREDITS
UAS	105	Fundamentals of Drone Technology	2
UAS	110	AC/DC	4
UAS	115	Ground School	3
UAS	120	Communication/Navigation	3
UAS	125	GIS I	3
UAS	130	MultiRotor I	3
UAS	135	Flight Planning	2
PDV	105	Blueprint for Personal Success	2
Total			**22.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$5,512.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Veterinary Assistant (High School), COC

CRN		COURSE NAME	CREDITS
VET	102	Introduction to Veterinary Assisting/Animal Science	1
VET	106	Veterinary Practice Management	1
VET	116	Laboratory and Diagnostic Skills	1
VET	121	Veterinary Assisting I	1
VET	141	Veterinary Assisting II	1
Total			**5.00**

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400 Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$1,070.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Veterinary Nursing (Vet Tech), AAS

CRN		COURSE NAME	CREDITS
VET	110	Veterinary Anatomy and Physiology	4
VET	130	Veterinary Emergency, Critical Medicine and Hospital Procedures	2
VET	215	Veterinary Clinical Pathology II	3
VET	220	Veterinary Nursing Procedures II	2
VET	230	Veterinary Diagnostic Imaging with Lab	3
VET	240	Veterinary Anesthesia and Surgical Assisting	3
VET	250	Veterinary Nursing: Large Animal Disease and Medical Care	2
VET	260	Veterinary Clinical Pathology III	3
VET	265	Veterinary Nursing Procedures: Avian, Exotic and Lab Animals Disease and Medical Care	2
VET	270	Veterinary Nursing Seminar	1
VET	275	Veterinary Clinical Practicum	6
VET		**Electives 13 Credits**	**13**
BIO	110	Principles of Biology	5
CED	115	Computer Applications	3
CHM	110	General Chemistry	5
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	3
		Math Elective	3

Electives

CRN		COURSE NAME	
VET	101	Introduction to Veterinary Nursing or VET 102 and 103	
VET	102	Introduction to Veterinary Assisting/Animal Science	
VET	103	Introduction to Veterinary Nursing Part 2	
VET	105	Veterinary Business Procedures/Office Management Or VET 107, 116, 121	
VET	107	Veterinary Business Procedures/Office Management Part 2	
VET	115	Veterinary Clinical Pathology I OR VET 116 and 117	
VET	116	Laboratory and Diagnostic Skills	
VET	117	Veterinary Clinical Pathology I Part 2	
VET	120	Veterinary Nursing Procedures I Or VET 122	
VET	121	Veterinary Assisting I	
VET	122	Veterinary Nursing Procedures I Part 2	
VET	140	Veterinary Pharmacology Or VET 141 and 142	
VET	141	Veterinary Assisting II	
VET	142	Veterinary Pharmacology Part 2	
Total			**68.00**

*Some courses may have a prerequisite in addition to the classes listed above. Please contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program admission requirements.

LOCATION

WSU South
3821 E. Harry | Wichita, KS 67218
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	$14,057.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages from WSU Tech graduates.

Welding, AAS

CRN		COURSE NAME	CREDITS
CWG	103	Blue Print Reading for Welders	2
CWG	105	Welding Safety & Orientation	1
CWG	115	SMAW	3
CWG	116	SMAW II	4
CWG	120	GMAW	3
CWG	121	GMAW II	4
CWG	125	GTAW	3
CWG	126	GTAW II	4
CWG	141	Oxy Acetylene Welding & Cutting	2
CWG	145	Fabrication & Design	2
CWG	149	Materials & Testing	2
		Technical Elective Credits - 12 (4 of the required credits must come from either CWG 242 or CWG 243)	**12**
AVC	110	Safety/OSHA 10	1
CED	115	Computer Applications	3
ENG	101	Composition I	3
PDV	105	Blueprint for Personal Success	2
		Communication Elective	**3**
		Math Elective	**3**
		Social Science Elective	**3**
Technical Electives			
CWG	110	Welding Applications	
CWG	130	Robotic Welding	
CWG	155	Flux Cored Arc Welding	
CWG	160	Welding Internship	
CWG	242	SMAW D1.1 Qualification	
CWG	243	GMAW D1.1 Qualification	
MCD	101	Introduction to CAD I	
MCD	102	Introduction to CAD II	
Total			**60.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$16,197.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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KSDegreeStats.org

Welding Fast Track GMAW, TC

CRN		COURSE NAME	CREDITS
CWG	103	Blue Print Reading for Welders	2
CWG	105	Welding Safety & Orientation	1
CWG	120	GMAW	3
CWG	121	GMAW II	4
CWG	141	Oxy Acetylene Welding & Cutting	2
AVC	110	Safety/OSHA 10	1
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Total			**18.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL   **$5,028.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Welding Fast Track SMAW, TC

CRN		COURSE NAME	CREDITS
CWG	103	Blue Print Reading for Welders	2
CWG	105	Welding Safety & Orientation	1
CWG	115	SMAW	3
CWG	116	SMAW II	4
CWG	141	Oxy Acetylene Welding & Cutting	2
AVC	110	Safety/OSHA 10	1
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Total			**18.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	$5,158.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

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from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Welding Fast Track, TC

CRN		COURSE NAME	CREDITS
CWG	103	Blue Print Reading for Welders	2
CWG	105	Welding Safety & Orientation	1
CWG	141	Oxy Acetylene Welding & Cutting	2
CWG		**Technical Electives - 7 Credits**	**7**
AVC	110	Safety/OSHA 10	1
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Technical Electives			
CWG	115	SMAW	
CWG	116	SMAW II	
CWG	120	GMAW	
CWG	121	GMAW II	
Total			**18.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	**$4,911.00**

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

www.WSUTECH.edu/Placement

Get historical data on job placement rates and average wages
from WSU Tech graduates.

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contact an Academic Advisor for details. Visit WSUTECH.edu/Checklist for program
admission requirements.

KSDegreeStats.org

Welding, TC

CRN		COURSE NAME	CREDITS
CWG	103	Blue Print Reading for Welders	2
CWG	105	Welding Safety & Orientation	1
CWG	115	SMAW	3
CWG	116	SMAW II	4
CWG	120	GMAW	3
CWG	121	GMAW II	4
CWG	125	GTAW	3
CWG	126	GTAW II	4
CWG	141	Oxy Acetylene Welding & Cutting	2
CWG	145	Fabrication & Design	2
CWG	149	Materials & Testing	2
		Technical Electives - 4 Credits	**4**
AVC	110	Safety/OSHA 10	1
MTH	020	Math Fundamentals	3
PDV	105	Blueprint for Personal Success	2
Technical Electives			
CWG	110	Welding Applications	
CWG	130	Robotic Welding	
CWG	155	Flux Cored Arc Welding	
CWG	160	Welding Internship	
CWG	242	SMAW D1.1 Qualification	
CWG	243	GMAW D1.1 Qualification	
MCD	101	Introduction to CAD I	
MCD	102	Introduction to CAD II	
Total			**40.00**

LOCATION

National Center for Aviation Training
4004 N. Webb Road | Wichita, KS 67226
City Center
301 S. Grove | Wichita, KS 67211
316.677.9400   Get maps at WSUTECH.edu/Campuses

COSTS*

PROGRAM TOTAL	$11,954.00

*Cost does not include online fees, books or tools.
Financial Assistance may be available to those who qualify.
Total calculated based on the lowest cost combination of
elective credits required.

PLACEMENT & WAGE DATA

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KSDegreeStats.org

COURSE DESCRIPTIONS

ACC 104 Computerized Accounting

Course Standard

Course Information

Description	Emphasizes a fundamental understanding of corporate and cost accounting. Topics include: accounting for a corporation, statement of cash flows, cost accounting, budgeting and long term liabilities. Laboratory work demonstrates theory presented in class.
Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	ACC 105 Fundamentals of Accounting
Prerequisite	CED 115 Computer Applications

ACC 105 Fundamentals of Accounting

Course Standard

Course Information

Description	This is a course designed for students who want a working knowledge of accounting, but not to the extent as a person working primarily in the accounting field. Although the basic accounting principles are learned and applied, the course, in comparison to Principles of Accounting I, covers a smaller amount of material at a somewhat slower pace. It is recommended for students with no previous accounting background.
Total Credits	3
Total Hours	45

ACC 130 Managerial Accounting

Course Standard

Course Information

Description	This course studies management tools for business decision making, including study of the evaluation of financial condition and performance of business. Emphasis is given to the process of formulating and utilizing sound accounting data to evaluate alternatives involved in managerial decision-making necessary for planning, execution, and control of a business enterprise.
Total Credits	3
Total Hours	45

ACC 152 Payroll Accounting

Course Standard

Course Information

Description   Provides an understanding of the laws that affect a company's payroll structure and practical application skills in maintaining payroll records. Topics include payroll tax laws, payroll tax forms, payroll and personnel records, computing wages and salaries, taxes affecting employees and employers and analyzing and journalizing payroll transactions. Provides first-hand experience in calculating payroll, completing payroll taxes and preparing records and reports. Topics include payroll tax entries, preparing payroll registers and maintaining employees' earnings records using computerized software.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   ACC 105 Fundamentals of Accounting

ACC 160 Principles of Accounting I

Course Standard

Course Information

Description   This course is designed to help the students develop a basic understanding of accounting theory, concepts and procedures. It will provide a foundation for further study for the student seeking a career in accounting or business administration or for the student entering into the occupational field.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   ACC 105 Fundamentals of Accounting

ACC 170 Principles of Accounting II

Course Standard

Course Information

Description   This course is a continuation of ACC 160 Principles of Accounting I. It is a study of corporations which includes organization and operations; stockholders' equity, earnings and dividends; long term assets and liabilities, investments, income tax and their effort on business decisions; and assessing a company's financial performance.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   ACC 160 Principles of Accounting I

ACP 100 Introduction to Coatings & Paint Technology

Course Standard

Course Information

Description   The objective of this course is to discuss the fundamentals of paint composition, application, and processing. As such, basic ingredients of paint properties will be discussed. Paint selection, performance criteria, application methods, defects, problem resolution, future paint and raw materials needs will be discussed.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   AVC 110 OSHA/Safety

ACP 101 Surface Preparation & Coatings

Course Standard

Course Information

Description   This course is a study of surface preparation from various coating and painting applications on all interior and exterior aircraft components. The content includes safety procedures including hazardous waste, surface preparations techniques, material application techniques and effectively using industry based technologies.

Total Credits   4

Total Hours 105

Pre/Corequisites

Prerequisite   ACP 100 Introduction to Coatings & Paint Technology

Prerequisite   MTH 020 Math Fundamentals

ACP 102 Performance & Durability of Coatings

Course Standard

Course Information

Description   The objective of this course is to discuss facts and findings affecting performance and permanence of coatings. Topics include: methods of enhancing durability and permanence, properties and selection of raw materials processes leading to robust coatings, service – life prediction, and coating evaluation.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   ACP 101 Surface Preparation & Coatings

ACP 103 Color Technology

Course Standard

Course Information

Description   This course is a study of the fundamentals of visual color match evaluation and of color measurement for industrial color control. Students utilize industry appropriate technologies on projects that demonstrate proper lighting, observe testing, objective terminology for color difference and determination of tolerances. Students analyze measurement data of the same industrial sample to study the correlation of visual to measured results

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   ACP 101 Surface Preparation & Coatings

ACP 104 Specialized Coatings Processes

Course Standard

Course Information

Description   This course is a study in special coatings for aerospace structures. Topics include mixing, application and curing coating materials, environmental effects of coating materials and general and hazardous material handling safety. The course also covers equipment used in these processes.

Total Credits   3

Total Hours   90

Pre/Corequisites

Prerequisite   ACP 101 Surface Preparation and Coatings

ACP 105 Specialized Detailing

Course Standard

Course Information

Description   This course provides instruction in the equipment, material, and techniques used in the application of special paints. Emphasis will be placed on aircraft refinishing procedures. Topics include: safety; paint identification; equipment use and maintenance; color application; original finish sealing; panel-spot repair and blending; thinners, reducers, and additives; and composite materials, plastics, and rubber refinishing.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   ACP 103 Color Technology

ACP 106 Aerospace Coatings & Materials

Course Standard

Course Information

Description This course covers advanced technologies for coating materials and applications. Topics include: coating technologies that address aesthetics, durability, and environmental issues.

Total Credits 3
Total Hours 60

Pre/Corequisites

Prerequisite ACP 102 Performance and Durabiltiy of Coatings
Prerequisite ACP 105 Specialized Detailing

ACP 107 Aerospace Program Management

Course Standard

Course Information

Description This course will introduce basic program management skills and techniques. Topics covered include: role of project management, communication, interpersonal skills, schedule management, interfacing with other units, project management software use, compliance reporting, and risk management.

Total Credits 3
Total Hours 45

Pre/Corequisites

Prerequisite ACP 104 Specialized Coatings Processes
Prerequisite ACP 106 Aerospace Coatings & Materials

ACP 110 Integrated Assembly Capstone Project

Course Standard

Course Information

Description This course addresses the full spectrum of the Coating Technicians role within the industry. Problem solving strategies within a team concept will be emphasized. Industry and applied research projects will be assigned.

Total Credits	4
Total Hours	180

Pre/Corequisites

Prerequisite	ACP 100 Introduction to Coatings and Paint Technology
Prerequisite	ACP 101 Surface Preparation and Coatings
Prerequisite	ACP 102 Performance and Durability of Coatings
Prerequisite	ACP 103 Color Technology
Prerequisite	ACP 104 Specialized Coatings Processes
Prerequisite	ACP 105 Specialized Detailing
Prerequisite	ACP 106 Aerospace Coatings and Materials
Prerequisite	ACP 107 Aerospace Program Management

ACP 111 Technical Co-Operative Project

Course Standard

Course Information

Description	Students will work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor will evaluate students' progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.

Total Credits	4
Total Hours	180

Pre/Corequisites

Prerequisite	ACP 107 Aerospace Program Management

ACP 115   Introduction to Airbrush

Course Standard

Course Information

Description	This course is designed as an introduction to airbrush paint. The ability to draw is not mandatory, patience is helpful. Topics covered in this class include a brief history and structure of the airbrush, comparing types and uses for different models and

proper cleaning and managing of airbrush equipment. Instruction on the proper triggering and holding of the airbrush, control exercises and various techniques will be addressed.

Total Credits	3
Total Hours	75

ACP 120 Intermediate Airbrush I

Course Standard

Course Information

Description   This course deals with promoting advanced technique skills that have been implemented in the introduction airbrush course and begin building a student portfolio. Students will have both required technique projects and student initiated subject matters in this course.

Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite   ACP 115 Introduction to Airbrush

ACP 121 Surface Preparation & Coatings II

Course Standard

Course Information

Description   This course is designed to enhance the students understanding of surface preparation and coatings learned in ACP 101. Students will demonstrate their ability to apply this knowledge to advanced projects.

Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite   ACP 101 Surface Preparation & Coatings

ACP 124 Specialized Coatings Processes II

Course Standard

Course Information

Description
This course is designed to enhance the students understanding of aviation coatings processes learned in ACP 104. Students will demonstrate their ability to apply this knowledge to advanced projects.

Total Credits   4
Total Hours   105

Pre/Corequisites

Prerequisite   ACP 104 Specialized Coating Processes

ACP 125 Intermediate Airbrush II

Course Standard

Course Information

Description
This course deals with the continued progression of advanced technique skills that have been implemented in previous airbrush courses and building a student portfolio. Students will have both required technique projects and student initiated subject matters in this course.

Total Credits   3
Total Hours   75

Pre/Corequisites

Prerequisite   ACP 120 Intermediate Airbrush II

ACP 160 Advanced Airbrush

Course Standard

Course Information

Description
This course deals with refining advanced technique skills that have been implemented in previous airbrush courses and building a student portfolio. Students will have both required technique projects and student initiated subject matters in this course. Students will learn how to prepare and submit their airbrush work for art competition.

Total Credits 3

Total Hours 75

Pre/Corequisites

Prerequisite   ACP 125 Intermediate Airbrush II

ACR 112 HVAC Fundamentals

Course Standard

Course Information

Description   This course is designed to introduce students to the HVAC industry. Topics include: basic HVAC concepts and theories of refrigeration, the laws of thermodynamics, pressure and temperature relationships, heat transfer, refrigerant identification, the refrigeration cycle. Technical skills will be introduced in soldering, brazing and refrigerants. Additionally, students will become familiar with trade related organizations, safety and job requirements.

Total Credits 4

Total Hours 105

ACR 113 Electrical Fundamentals

Course Standard

Course Information

Description   Students will be introduced to basic electrical theory for DC and AC systems. The students will become familiar with the production of electricity and how to apply Ohm's Law and Power Formula. Additional topics include electrical safety, reading and interpreting schematic designs.

Total Credits 4

Total Hours 90

ACR 116 Workplace Skills

Course Standard

Course Information

Description   Upon successful completion of this course, the student should be able to identify the job skills necessary to have a successful career in the field of their choice. Topics include: listening skills, oral communication, human relations, decision making/problem solving, how to work as a team, time and resource management, work ethics, career planning and resume building.

Total Credits   1

Total Hours   15

ACR 117 Intro to Mechanical Refrigeration

Course Standard

Course Information

Description   The students will learn the basics of the refrigeration system and its components. The students will also learn proper refrigerant handling techniques regarding system evacuation and charging; and the best practices for refrigerant recovery, reclamation, and recycle – all of which form the basis for the EPA 608 exam.

Total Credits   4

Total Hours   90

Pre/Corequisites

Prerequisite   ACR 112 HVAC Fundamentals

ACR 118 Electrical Fundamentals II

Course Standard

Course Information

Description   Students will be introduced to motor theory and explore motor applications. This course builds on previous knowledge gained in Electrical Fundamentals I and requires a firm understanding of magnetism and voltage production. Motor trouble shooting will be introduced. Types of motors covered will be single phase motors, three phase and ECM motors.

Total Credits   3

Total Hours   75

Pre/Corequisites

ACR 119 Advanced Electrical Theory for HVAC

Course Standard

Course Information

Description   Advanced Electrical Theory for HVAC is a continuation of Electrical Fundamentals I & II, and places an emphasis on developing systematic diagnosis and troubleshooting methods and procedures that will enable the student to become a highly-skilled, professional HVAC-R service technician.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   ACR 118 Electrical Fundamentals II

ACR 121 Heating System Fundamentals

Course Standard

Course Information

Description   This course will provide students a firm understanding of combustion and how it is applied in the HVAC industry. Residential gas furnaces will be studied in detail to gain understanding in service and installation, including standard, mid-range, and high efficiency furnaces.

Total Credits   3

Total Hours   75

ACR 122 Heating System Fundamentals II

Course Standard

Course Information

Description   The Heating System Fundamentals II course is designed to walk students through the requirements of the Uniform Mechanical Code in relation to Gas Piping and exhaust ventilation. Students will gain a thorough understanding and be able to apply skills in sizing vents and pipe upon completion of this course.

Total Credits   3

Total Hours   60

ACR 123 Heat Loads and Duct Sizing

Course Standard

Course Information

Description   The course will teach students to analyze heat flow characteristics as they study heat loss and heat gain factors as it pertains to residential HVAC design. Topics will include the effects of selected materials and the layout of the system for the purpose of trouble shooting, load estimation and duct sizing.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   ACR 121 Heating System Fundamentals

ACR 124 Advanced Heating Systems

Course Standard

Course Information

Description	This course will introduce students to electric furnaces and hydronic heating with an emphasis on the electrical systems of those units and code requirements for the safe installation of such equipment. Indoor air quality will be discussed in detail as a major factor in human comfort.
Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite ACR 121 Heating Systems Fundamentals

ACR 126 EPA 608

Course Standard

Course Information

Description	This course prepares students for the certification exam required by federal and state governments and the heating, ventilation, air conditioning and refrigeration (HVAC/R) industry. Students focus on Environmental Protection Agency (EPA) refrigerant handling exams and Industry Competency Exams (ICE).
Total Credits	1
Total Hours	15

Pre/Corequisites

Prerequisite ACR 117 Introduction to Mechanical Refrigeration

ACR 127 Heat Pumps

Course Standard

Course Information

Description	The student will learn basic functions of heat pump designs, charging, and trouble shooting.
Total Credits	4

Total Hours   90

Pre/Corequisites

Prerequisite   ACR 117 Intro to Mechanical Refrigeration

Prerequisite   ACR 121 Heating System Fundamentals

ACR 128 Commercial HVAC

Course Standard

Course Information

Description   This course will introduce students to the commercial applications of various HVAC systems. A strong foundation in refrigeration theory is required as well as a comprehensive understanding of system airflow and electrical fundamentals. Students who complete this course will be skilled in reading advanced electrical schematics and be able to describe the function and application of various commercial systems and components including Direct Digital Control systems and frequency drives. This is a capstone course.

Total Credits   4

Total Hours   60

Pre/Corequisites

Prerequisite   ACR 127 Heat Pumps

ACR 129 Commercial HVAC Lab

Course Standard

Course Information

Description   This course continues the introduction to commercial HVAC systems through hands-on training. Students will perform basic maintenance, repairs and troubleshooting on functioning light commercial and commercial equipment.

Total Credits   4

Total Hours   120

Pre/Corequisites

Prerequisite   ACR 128 Commercial HVAC

ACR 140 Sheet Metal Fabrication I

Course Standard

Course Information

Description	Upon successful completion of this course, the student will be able to identify the components, equipment, and operations associated with sheet metal layout and fabrication. Duct sizing and code requirements for duct systems are also discussed.

Total Credits	3
Total Hours	75

ADN 110 Concepts of Professional Nursing: Transitioning from LPN to RN

Course Standard

Course Information

Description	This course focuses on the transition from a Licensed Practical Nurse (LPN) into the Associate Degree nursing program and introduces students to concepts under the categories of Client-Centered Care, Professional Nursing and Healthcare System. Students will be able to differentiate the scope of practice of the LPN from the RN. Emphasis is placed on concepts that are commonly used by professional nurses for the care of diverse clients, in a variety of settings, across the life span.

Total Credits	3
Total Hours	60

Pre/Corequisites

Prerequisite	BIO 150 Anatomy and Physiology
Prerequisite	ENG 101 English Composition
Prerequisite	ALH 175 Pathophysiology
Prerequisite	PSY 101 General Psychology

ADN 120 Introduction to Nursing Concepts

Course Standard

Course Information

Description	This course introduces students to a core set of concepts critical to professional nursing practice. Conceptual learning and its role in promoting deep learning will be examined. Students will complete concept analyses on selected concepts that will be used throughout the curriculum. Evidence-based exemplars will also be briefly reviewed in relation to selected concept.
Total Credits	1
Total Hours	15

Pre/Corequisites

Corequisite   ADN 130 Foundational Concepts in Nursing

Corequisite   ADN 140 Pharmacological Concepts in Nursing I

ADN 130 Foundational Concepts in Nursing

Course Standard

Course Information

Description	This course introduces students to concepts under the category of Client Centered Care. Instruction will emphasize the knowledge and skills needed by professional nurses to provide safe, quality care. The faculty will present the theoretical foundation for nursing skills and the nursing process, and students will demonstrate these skills in a laboratory setting.
Total Credits	6
Total Hours	150

Pre/Corequisites

Corequisite   ADN 120 Introduction to Nursing Concepts
Corequisite   ADN 140 Pharmacological Concepts in Nursing I

ADN 140 Pharmacological Concepts in Nursing I

Course Standard

Course Information

Description The purpose of this course is to examine pharmacotherapeutic agents used in the treatment of illness and the promotion, maintenance, and restoration of wellness in diverse individuals. It focuses on drug classification, concepts, and principles of pharmacology with special consideration for the nursing role in developing a comprehensive approach to the clinical application of drug therapy through the use of the nursing process. In addition, students examine the Nursing implications relative to the utilization of drug therapy and engage in discussion around the safety and legal implications of drug administration.

Total Credits 2

Total Hours 30

Pre/Corequisites

Corequisite ADN 120 Introduction to Nursing Concepts

Corequisite ADN 130 Foundational Concepts in Nursing

ADN 150 Professional Nursing Concepts I

Course Standard

Course Information

Description This course introduces students to concepts under the categories of Professional Nursing and Healthcare System. Emphasis is placed on concepts that professional nurses commonly use in a variety of settings with diverse clients.

Total Credits 4

Total Hours 60

Pre/Corequisites

Prerequisite ADN 120 Introduction to Nursing Concepts
Prerequisite ADN 130 Foundational Concepts in Nursing
Prerequisite ADN 140 Pharmacological Concepts in Nursing I
Corequisite ADN 160 Client Care Concepts I
Corequisite ADN 170 Pharmacological Concepts in Nursing II

ADN 160 Client Care Concepts I

Course Standard

Course Information

Description	This course focuses on the care of clients across the lifespan with concept-related health alterations that require intervention. Clinical experiences allow the student to apply theoretical concepts and implement safe client care to clients in various settings.

Total Credits	6
Total Hours	150

Pre/Corequisites

Prerequisite	ADN 120 Introduction to Nursing Concepts
Prerequisite	ADN 130 Foundational Concepts in Nursing
Prerequisite	ADN 140 Pharmacological Concepts in Nursing I
Corequisite	ADN 150 Professional Nursing Concepts I
Corequisite	ADN 170 Pharmacological Concepts in Nursing II

ADN 170 Pharmacological Concepts in Nursing II

Course Standard

Course Information

Description	This course is a continuation of Pharmacological Concepts in Nursing I. The purpose of this course is to examine pharmacotherapeutic agents used in treating illness and promoting, maintaining, and restoring wellness in diverse individuals. It focuses on drug classification, concepts, and principles of pharmacology with special consideration for the nursing role in developing a comprehensive approach to the clinical application of drug therapy through the use of the nursing process. In addition, students will have the opportunity to examine the nursing implications relative to the utilization of drug therapy. Finally, students will study the safety and legal implications of drug administration.

Total Credits	2
Total Hours	30

Pre/Corequisites

Prerequisite	ADN 120 Introduction to Nursing Concepts
Prerequisite	ADN 130 Foundational Concepts in Nursing
Prerequisite	ADN 140 Pharmacological Concepts in Nursing I

Corequisite   ADN 150 Professional Nursing Concepts I

Corequisite   ADN 160 Client Care Concepts I

ADN 180 Client Care Concepts II

Course Standard

Course Information

Description	This course builds on Client Care Concepts I, focusing on the care of clients across the lifespan with concept-related health alterations that require intervention. Clinical experiences allow the student to apply theoretical concepts and implement safe client care to clients in a variety of settings.

Total Credits	6
Total Hours	150

Pre/Corequisites

Prerequisite   ADN 150 Professional Nursing Concepts I

Prerequisite   ADN 160 Client Care Concepts I

Prerequisite   ADN 170 Pharmacological Concepts in Nursing II

Corequisite   ADN 190 Professional Nursing Concepts II

ADN 190 Professional Nursing Concepts II

Course Standard

Course Information

Description	This course requires students to continue appraising concepts under the categories of Professional Nursing and Healthcare System. Instruction in this course emphasizes contemporary issues and the concepts of Health Care Law and Ethics, Healthcare Delivery Systems and Organizations, Healthcare Quality, Health Policy, Leadership and Management, and Professionalism and Professional Identity.

Total Credits	4

Total Hours 60

Pre/Corequisites

Prerequisite ADN 150 Professional Nursing Concepts I

Prerequisite ADN 160 Client Care Concepts I

Prerequisite ADN 170 Pharmacological Concepts in Nursing II

Corequisite ADN 180 Client Care Concepts II

ADN 200 Client Care Concepts III

Course Standard

Course Information

Description This course builds on Client Care Concepts I and II, focusing on the care of clients across the lifespan with concept-related exemplary multisystem health alterations that require intervention. Clinical experiences allow the student to apply theoretical concepts and implement safe client care to clients in a variety of settings.

Total Credits 6
Total Hours 150

Pre/Corequisites

Prerequisite ADN 180 Client Care Concepts II

Prerequisite ADN 190 Professional Nursing Concepts II

Corequisite ADN 210 Transition to Practice

ADN 210 Transition to Practice

Course Standard

Course Information

Description   This course facilitates the transition of the student to the role of a professional nurse. Emphasis is placed on contemporary issues and management concepts and developing the skills of delegation, conflict management, and leadership. Students will review the legal and ethical issues with a focus on personal accountability and responsibility. Standards of practice and the significance of functioning according to state regulations and statutes are analyzed. Clinical experiences provide the student the opportunity to apply theoretical concepts.

Total Credits   4

Total Hours   120

Pre/Corequisites

Prerequisite   ADN 180 Client Care Concepts II

Prerequisite   ADN 190 Professional Nursing Concepts II

Corequisite   ADN 200 Client Care Concepts III

AER 106 Aerospace Manufacturing Tooling Orientation

Course Standard

Course Information

Description   This course provides an overview of the Tooling safety hazards, traits employers value, various roles and responsibilities within advanced manufacturing teams and what elements are necessary to make a manufacturing company successful.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   AVC103 Geometric Dimensioning & Tolerancing
Prerequisite   AVC104Quality Control Concepts
Prerequisite   AVC 107 Fundamentals for Aerospace Manufacturing
Prerequisite   AVC 110 Safety/OSHA 10

AER 111 Tap and Die

Course Standard

Course Information

Description   This course provides knowledge and technical skills on taps and dies. Topics include 60 degree thread form, common fastener thread series and markings on taps. The student will learn the process of hand tapping, the process of repairing a thread with a threading die and the process of installing a threaded insert.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   AER 106 Aerospace Manufacturing Tooling Orientation

AER 115 Aerostructures Assembly

Course Standard

Course Information

Description   Students will master the techniques associated with aerospace mechanical assembly. Topics include the identification, installation and removal of fasteners, sealant applications, component assembly, wing structures, fuselage structures, curved surfaces, and repair techniques. Students learn in an environment which combines interactive online delivery of theoretical content with hands on application in a state of the art assembly laboratory.

Total Credits   6

Total Hours   165

Pre/Corequisites

Prerequisite   AVC 127 Aviation Assembly Core or the following AVC courses

Prerequisite   AVC 102 Precision Instruments

Prerequisite   AVC 104 Quality Control Concepts

Prerequisite   AVC 110 Safety/OSHA 10

Prerequisite   AVC 112 Blueprint Reading

Prerequisite   AVC 120 Introduction to Sealing

Prerequisite   AVC 140 Electrical Bonding & Grounding

Corequisite   MTH 020 Math Fundamentals

AER 116 Hand and Power Tools for Aerospace Tooling

Course Standard

Course Information

Description   This course provides technical knowledge on hand power tools used by a toolmaker in the aerospace industry. The student will learn about die grinders, disco grinders and magnetic drills.

Total Credits   1

Total Hours   30

Pre/Corequisites

Prerequisite   AER 111 Tap & Die

AER 126 Tooling Capstone

Course Standard

Course Information

Description   This course provides the specific technical knowledge and skills necessary to utilize hand and power tools to create a drill jig. This course emphasizes the importance of critical features, the process of permanent assembly and the role of toolmakers in the manufacturing environment.

Total Credits   4

Total Hours   120

Pre/Corequisites

Prerequisite   AER 116 Hand and Power Tools for Aerospace Tooling

Prerequisite   AER 150 Assembly Overview I

AER 135 Quality Assurance Orientation

Course Standard

Course Information

Description   This course provides an overview of the Quality Assurance Program. The course includes an overview of the expectations of the program, potential safety hazards, traits employers value, various role and responsibilities within advanced manufacturing teams and what elements are necessary to make a manufacturing company successful.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite	AVC 102 Precision Instruments
Prerequisite	AVC 104 Quality Control Concepts
Prerequisite	AVC 105 Aircraft Familiarization
Prerequisite	AVC 107 Fundamentals for Aerospace Manufacturing
Prerequisite	AVC 108 Aircraft System & Components
Prerequisite	AVC 110 Safety/OSHA 10
Prerequisite	AVC 112 Blueprint Reading
Prerequisite	AVC 120 Introduction to Sealing
Prerequisite	AVC 125 Bonding & Grounding
Prerequisite	AVC 140 Electrical Bonding & Grounding
Prerequisite	AVC 135 Hand Tools

AER 140 Assembly Mechanic Orientation

Course Standard

Course Information

Description   This course provides an overview of the technical and mechanical knowledge and skills necessary to qualify for employment in the aerospace industry as an assembly mechanic. The course presented using interactive online content.

Total Credits   1

Total Hours   15

AER 150 Assembly Overview I

Course Standard

Course Information

Description   This course is designed to provide the student with a general overview of assembly techniques used in aviation. Working in a hands-on setting, students will learn the basics of aircraft assembly while focusing on inspection techniques. Students learn in an environment which combines interactive online delivery of theoretical content with hands on application in a state of the art assembly laboratory.

Total Credits   3

Total Hours   90

AER 155 Aerospace Plumbing

Course Standard

Course Information

Description   This course is designed to develop basic theory and knowledge of aircraft fluid lines and fittings. Students will participate in hands on projects with an emphasis on inspection techniques used in the aviation industry.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   AVC 102 Precision Instruments

Prerequisite   AVC 103 Geometric Dimensioning & Tolerancing

Prerequisite   AVC 104 Quality Control Concepts

Prerequisite   AVC 105 Aircraft Familiarization

Prerequisite   AVC 107 Fundamentals for Aerospace Manufacturing

Prerequisite   AVC 108 Aircraft System & Components

Prerequisite   AVC 110 Safety/OSHA 10

Prerequisite   AVC 120 Introduction to Sealing

Prerequisite   AVC 125 Bonding & Grounding

Prerequisite   AVC 130 Assembly Mechanic Orientation

Prerequisite   AVC 135 Hand Tools

Prerequisite   AVC 112 Blueprint Reading

AER 157 Advanced Assembly

Course Standard

Course Information

Description   This course is the second of two courses designed to provide students with real world experiences as aviation sheetmetal assemblers. In a state of the art assembly laboratory students will learn and apply drilling, countersinking skills as well as fastener installation and removal techniques. Students will learn to complete the work to the required standards within specified timeframes.

Total Credits   3

Total Hours   90

Pre/Corequisites

Prerequisite   AER 150 Assembly Overview I

AER 165 Electrical Assembly Mechanic Orientation

Course Standard

Course Information

Description   The electrical certificate educational program is a tremendous opportunity for you to learn technical skills that are needed for employment in the aerospace manufacturing industry. Your participation in this program is a unique opportunity for you to set a course for success on your career journey. This course exposes students to the potential to a good career in the electrical wiring installation portion of aircraft manufacturing.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   AVC 102 Precision Instruments

Prerequisite   AVC 104 Quality Control Concepts

Prerequisite   AVC 105 Aircraft Familiarization

Prerequisite   AVC 107 Fundamentals for Aerospace Manufacturing

Prerequisite   AVC 108 Aircraft System & Components

Prerequisite   AVC 110 Safety/OSHA 10

Prerequisite   AVC 112 Blueprint Reading

Prerequisite   AVC 120 Introduction to Sealing

Prerequisite   AVC 125 Bonding & Grounding

Prerequisite   AVC 135 Hand Tools

AER 166 Electrical Hand Tools

Course Standard

Course Information

Description   This course familiarizes the student with various hand tools and connectors used in the installation of electrical wiring in aerospace manufacturing.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   AVC 102 Precision Instruments

Prerequisite   AVC 104 Quality Control Concepts

Prerequisite   AVC 105 Aircraft Familiarization

Prerequisite   AVC 107 Fundamentals for Aerospace Manufacturing

Prerequisite   AVC 108 Aircraft System & Components

Prerequisite   AVC 110 Safety/OSHA 10

Prerequisite   AVC 112 Blueprint Reading

Prerequisite   AVC 120 Introduction to Sealing

Prerequisite   AVC 125 Bonding & Grounding

Prerequisite   AVC 135 Hand Tools

Prerequisite   AER 165 Electrical Assembly Mechanic Orientatin

AER 167 Basic Drilling & Riveting/Ground Stud Installation

Course Standard

Course Information

Description   This course familiarizes the student with power tools and acquired skills used in drilling a quality hole and installing driven fasteners. In conjunction with this procedure, Ground Studs will be installed and electrical resistance verified.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite	AVC 102 Precision Instruments
Prerequisite	AVC 104 Quality Control Concepts
Prerequisite	AVC 105 Aircraft Familiarization
Prerequisite	AVC 107 Fundamentals for Aerospace Manufacturing
Prerequisite	AVC 108 Aircraft System & Components
Prerequisite	AVC 110 Safety/OSHA 10
Prerequisite	AVC 112 Blueprint Reading
Prerequisite	AVC 120 Introduction to Sealing
Prerequisite	AVC 125 Bonding & Grounding
Prerequisite	AVC 135 Hand Tools
Corequisite	AVC 140 Electrical Bonding & Grounding
Prerequisite	AER 165 Electrical Assembly Mechanic Orientation

AER 168 Wire Installation Drawings

Course Standard

Course Information

Description	This course familiarizes with the various drawings utilized in aerospace wire bundle installation, includes engineering drawing review, wire bundle installation paperwork and electrical production illustrations.

Total Credits	1
Total Hours	15

Pre/Corequisites

Prerequisite	AVC 110 Safety/OSHA 10
Prerequisite	AVC 105 Aircraft Familiarization
Prerequisite	AVC 107 Fundamentals for Aerospace Manufacturing
Prerequisite	AVC 112 Blueprint Reading
Prerequisite	AVC 120 Introduction to Sealing
Prerequisite	AVC 125 Bonding & Grounding
Prerequisite	AVC 135 Hand Tools

AER 169 Crimping & Cables

Course Standard

Course Information

Description   This course familiarizes the student with specifications and skills required to strip insulation from wires, crimp connectors on wires, install connectors on coaxial cables, install connectors in plugs and manufacture a wire bundle according to a blueprint.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite	AVC 102 Precision Instruments
Prerequisite	AVC 104 Quality Control Concepts
Prerequisite	AVC 105 Aircraft Familiarization
Prerequisite	AVC 107 Fundamentals for Aerospace Manufacturing
Prerequisite	AVC 108 Aircraft System & Components
Prerequisite	AVC 110 Safety/OSHA 10
Prerequisite	AVC 112 Blueprint Reading
Prerequisite	AVC 120 Introduction to Sealing
Prerequisite	AVC 125 Bonding & Grounding
Prerequisite	AVC 135 Hand Tools
Prerequisite	AVC 140 Electrical Bonding & Grounding
Prerequisite	AER 165 Electrical Assembly Mechanic Orientation
Corequisite	AER 175 Wire Bundle Basics

AER 170 Fiber Optics for Aerospace

Course Standard

Course Information

Description   This course familiarizes the student with the advantages and disadvantages of the use of Fiber Optics in aircraft. Included are overviews how Fiber Optics works, manufacturing processes, handling of Fiber Optics and particulars of quality and safety.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite	AVC 102 Precision Instruments
Prerequisite	AVC 104 Quality Control Concepts
Prerequisite	AVC 105 Aircraft Familiarization
Prerequisite	AVC 107 Fundamentals for Aerospace Manufacturing
Prerequisite	AVC 108 Aircraft System & Components
Prerequisite	AVC 110 Safety/OSHA 10
Prerequisite	AVC 112 Blueprint Reading
Prerequisite	AVC 120 Introduction to Sealing
Prerequisite	AVC 125 Bonding & Grounding
Prerequisite	AVC 135 Hand Tools
Prerequisite	AER 165 Electrical Assembly Mechanic Orientation.

AER 175 Wire Bundle Basics

Course Standard

Course Information

Description	This course familiarizes the student with wiring in airplanes, wire and cable basics, wire markings, documents used in wire bundle installation, circular connectors and contacts, connector installation, MTC connectors and tying wire bundles.

Total Credits	1
Total Hours	15

Pre/Corequisites

Prerequisite	AVC 110 Safety/OSHA 10
Prerequisite	AVC 112 Blueprint Reading
Prerequisite	AVC 105 Aircraft Familiarization
Prerequisite	AVC 107 Fundamentals for Aerospace Manufacturing
Prerequisite	AVC 108 Aircraft System & Components
Prerequisite	AVC 120 Introduction to Sealing
Prerequisite	AVC 125 Bonding & Grounding
Prerequisite	AVC 135 Hand Tools

AER 180 Soldering

Course Standard

Course Information

Description   The soldering course acquaints the student with the proper way to safely perform soldering procedures in aviation applications. The importance of correct procedures is emphasized as the student performs wire stripping along with various soldering and de-soldering operations.

Total Credits   1

Total Hours   30

Pre/Corequisites

Prerequisite	AVC 102 Precision Instruments
Prerequisite	AVC 104 Quality Control Concepts
Prerequisite	AVC 105 Aircraft Familiarization
Prerequisite	AVC 107 Fundamentals for Aerospace Manufacturing
Prerequisite	AVC 108 Aircraft System & Components
Prerequisite	AVC 110 Safety/OSHA 10
Prerequisite	AVC 112 Blueprint Reading
Prerequisite	AVC 120 Introduction to Sealing
Prerequisite	AVC 125 Bonding & Grounding
Prerequisite	AVC 135 Hand Tools
Prerequisite	AER 165 Electrical Assembly Mechanic Orientation,
Prerequisite	AER 166 Electrical Hand Tools

AER 185 Wire Bundle Installation

Course Standard

Course Information

Description	This course familiarizes with the requirements for wire bundle installation culminating in the installation of several wire bundles on a project board.

Total Credits	2
Total Hours	45

Pre/Corequisites

Prerequisite	AVC 102 Precision Instruments
Prerequisite	AVC 104 Quality Control Concepts
Prerequisite	AVC 105 Aircraft Familiarization
Prerequisite	AVC 107 Fundamentals for Aerospace Manufacturing
Prerequisite	AVC 108 Aircraft System & Components
Prerequisite	AVC 110 Safety/OSHA 10
Prerequisite	AVC 112 Blueprint Reading
Prerequisite	AVC 120 Introduction to Sealing
Prerequisite	AVC 125 Bonding & Grounding
Prerequisite	AVC 135 Hand Tools
Prerequisite	AVC 140 Electrical Bonding & Grounding
Prerequisite	AER 165 Electrical Assembly Mechanic Orientation
Prerequisite	AER 166 Electrical Hand Tools
Prerequisite	AER 175 Wire Bundle Basics
Prerequisite	AER 169 Crimping & Cables
Prerequisite	AER 168 Wire Installation Drawings.

AFV 110 Electrical I

Course Standard

Course Information

Description   In this course students will: Complete service work orders; describe the relationship between voltage, ohms and amperage; perform basic electrical circuit repairs; identify electrical system faults; identify basic wiring diagram symbols, components, and legend information; perform basic electrical circuit measurements using a DVOM; describe basic circuit characteristics of series, parallel and series parallel circuits through a variety of classroom and shop learning and assessment activities.

Total Credits   3

Total Hours   90

AFV 120 Electrical II

Course Standard

Course Information

Description   In this course students will: Perform battery diagnosis; perform battery service; perform starting system diagnosis; perform starting system repair; perform charging system diagnosis; perform charging system repair; identify current flow on starting and charging system diagrams through a variety of learning and assessment activities.

Total Credits   5

Total Hours   150

Pre/Corequisites

Prerequisite   AFV 110 Electrical I

AFV 125 Manual Transmission/Transaxle & Drive Train

Course Standard

Course Information

Description   This course contains competencies that can be used in their entirety within a single course or as needed for courses designed by a Kansas institution as Institutional Flexible Credit. Through a variety of learning and assessment activities students can: determine the general drive train diagnosis procedures; explore the fundamentals of

clutch operation; explore the fundamentals of clutch removal, inspection and repair; determine the powerflow of the manual transmission and transaxle; perform fundamental manual transmission and transaxle inspection and repair according to service specifications; perform fundamental differential inspection and repair according to service specifications; perform fundamental diagnosis, inspection and replacement of drive axle shafts and supporting components; perform fundamental diagnosis, inspection, adjustment and repair of four- and all-wheel drive components; diagnose drive train issues; diagnose clutch concerns; perform the removal, inspection and/or repair of the clutch and its components; conduct a transmission and transaxle inspection and repair according to service specifications; conduct a differential inspection and repair according to service specifications; conduct the diagnosis, inspection and replacement of drive axle shafts and supporting components; conduct the diagnosis, inspection, adjustment and repair of four- and all-wheel drive components.

Total Credits   4

Total Hours   120

AFV 130 Suspension and Steering I

Course Standard

Course Information

Description   In this course students will: document fundamental suspension system concerns; perform fundamental diagnostics of steering systems; perform fundamental repairs of steering systems; perform fundamental diagnostics of suspension systems; perform fundamental repairs of suspension systems; determine the need for wheel alignment and adjustment; perform fundamental diagnostics of wheel and tire systems; perform fundamental repairs of wheel and tire systems through a variety of learning and assessment activities.

Total Credits   3

Total Hours   60

AFV 135 Introduction to Alternative Fuels

Course Standard

Course Information

Description   Students will use various sources in the alternative fueled vehicle industry to learn what alternative fuels are available. Students will examine the need for alternative fuels including: Propane, Natural Gas, Ethanol and Biodiesel. Students will also learn about new technologies such as Electric Drive and Hydrogen fueled vehicles as well as Fuel Economy and Idle Reduction considerations.

Total Credits 3

Total Hours 60

Pre/Corequisites

Prerequisite   AFV 120 Electrical II

AFV 140 Engine Repair

Course Standard

Course Information

Description   Through a variety of learning and assessment activities students can: explore the theory and operation of internal combustion engine; demonstrate the ability to remove an automotive engine; demonstrate the ability to install an automotive engine; demonstrate the basic ability to inspect and repair cylinder head, valve trains and timing defects; demonstrate the ability to disassemble short block; demonstrate the ability to inspect short block; demonstrate the ability to repair short block; demonstrate the ability to reassemble short block; demonstrate the basic ability to inspect and repair engine lubrication; demonstrate the basic ability to inspect and repair engine cooling systems; inspect a cylinder head and valve train; repair a cylinder head and valve train; perform advanced level engine diagnosis.

Total Credits 4

Total Hours 120

AFV 145 Hybrid Systems & Maintenance

Course Standard

Course Information

Description   This course introduces the student to the features of the Internal Combustion Engine (ICE) as they apply to the hybrid vehicle, hybrid drive systems (transaxles and gears), brake systems, HVAC systems, and cooling systems service. First responder, predictive maintenance procedures, hybrid trucks, and Belted Alternator System (BAS) are also examined.

Total Credits 3

Total Hours 75

Pre/Corequisites

Prerequisite   AFV 135 Introduction to Alternative Fuels

AFV 150 Electric/Fuel Cell Technology

Course Standard

Course Information

Description This course is designed to help prepare the student to enter the automotive repair and service industry in the area of alternative fuels and advanced technology vehicles. It is an intensive study of vehicle electric and fuel cell theory, application, installation, diagnosis, service and safety regulations.

Total Credits 1

Total Hours 30

Pre/Corequisites

Prerequisite AFV 135 Introduction to Alternative Fuels

AFV 155 High Voltage Battery Technology & Management

Course Standard

Course Information

Description This course introduces the student to high voltage battery technology: electrical service safety precautions and personal protection, high voltage tools and equipment usage, battery energy management hardware systems, battery removal and installation, and battery rebuilding. The student will also be introduced to AC induction electric machines, permanent magnet electric machines, power inverter systems, electric propulsion sensing systems, communication networks, and predictive maintenance.

Total Credits 3

Total Hours 75

Pre/Corequisites

Prerequisite AFV 135 Introduction to Alternative Fuels

AFV 160 Brakes I

Course Standard

Course Information

Description   In this course students will Perform system pressure and travel calculations utilizing Pascal's Law; Complete service work orders; Determine appropriate system pressure tests utilizing service specifications; Determine brake system concerns and necessary actions; Diagnose poor stopping, pulling or dragging concerns caused by malfunctions in the hydraulic system; Determine how to inspect, fabricate and/or replace brake lines and hoses; Determine the service specifications pertaining to the removal, cleaning and refinishing procedures on brake drums; Apply drum brake repair and replacement procedures; Diagnose poor stopping noise vibration, pulling, grabbing, dragging or pedal pulsation concerns on disc-brake vehicles; Determine disc brake repair and replacement procedures; Determine how to caliper piston retractions; Diagnose wheel bearing noise, wheel shimmy and vibration concerns; Determine how to remove, inspect and replace bearing and hub assemblies through a variety of classroom and lab/shop learning and assessment activities.

Total Credits   3

Total Hours   90

Pre/Corequisites

Prerequisite   AFV 120 Electrical II

AFV 165 Introduction to CNG and LPG Conversion, Installation & Maintenance

Course Standard

Course Information

Description   This course introduces students to CNG and LNG as forms of alternative fuels. It will teach them safety when fueling and servicing vehicles that use CNG or LNG. Students will be introduced to CNG conversions and factory installed use of CNG for duel fueled vehicles. Students will be introduced to fleet operations using LNG and how to service and maintain those vehicles.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   AFV 120 Electrical II

AFV 170 Automotive Computer Systems

Course Standard

Course Information

Description   In this course students will: Perform automotive computer system diagnosis; perform vehicle communication diagnosis; perform engine computer system diagnosis; transmission computer diagnosis; perform air bag system diagnosis; perform heating and air conditioning electronic diagnosing; perform electronic anti-lock brake/traction/stability diagnosis; perform driver assistance system diagnosis; identify computer systems through a variety of learning and assessment activities.

Total Credits   3

Total Hours   90

Pre/Corequisites

Prerequisite   AFV 120 Electrical II

AFV 175 Automatic Transmission Repair

Course Standard

Course Information

Description   This course contains competencies that can be used in their entirety within a single course or as needed for courses designed by a Kansas institution as Institutional Flexible Credit. Through a variety of learning and assessment activities students can: explore the concept of theory and operation of automatic transmissions/transaxles; perform maintenance on an automatic transmission/transaxle; perform service on an automatic transmission/transaxle; diagnose automatic transmission/transaxles; inspect automatic transmission/transaxles; remove and reinstall automatic transmission; remove and reinstall automatic transaxles; disassemble automatic transmission and components; disassemble automatic transaxles and components; inspect automatic transmission components; inspect automatic transaxles and components; repair automatic transmission and components; repair automatic transaxles and components; reassemble automatic transmission and components; reassemble automatic transaxles and components.

Total Credits   4

Total Hours   120

Pre/Corequisites

Prerequisite   AFV 120 Electrical II

AFV 180 Heating & Air Conditioning

Course Standard

Course Information

Description   This course contains competencies that can be used in their entirety within a single course or as needed for courses designed by a Kansas institution as Institutional Flexible Credit. Through a variety of learning and assessment activities students can: explore the fundamentals of automotive HVAC operations and environmental concerns, identify the appropriate refrigerant recovery and recycling guidelines; service refrigerant, recycling and handling systems; document fundamental heating and air conditioning system concerns; perform fundamental diagnostics of A/C systems; perform fundamental diagnostics of refrigeration systems components; perform fundamental repairs of refrigeration systems components; perform fundamental diagnostics of heating, ventilation, and engine cooling systems; perform fundamental repairs of heating, ventilation, and engine cooling systems; perform fundamental diagnostics of operating systems and related controls; perform fundamental repairs of operating systems and related controls; perform complex diagnostics of A/C Systems; document complex heating and air conditioning system concerns; perform complex diagnostics of refrigeration system components; perform complex repairs of refrigeration system components; perform complex diagnostics of heating, ventilation, and engine cooling systems.

Total Credits   4

Total Hours   120

Pre/Corequisites

Prerequisite   AFV 120 Electrical II

ALH 101 Medical Terminology

Course Standard

Course Information

Description   Presents basic principles of medical word-building. The study develops competencies in the basic elements forming medical words, categorizing major suffixes and group prefixes. Anatomical, physiological and pathological terms are reviewed so students better understand special medical procedures. This is the introductory course in medical terminology and is intended for all who desire knowledge in this subject.

Total Credits   3

Total Hours   45

ALH 105 First Aid & CPR

Course Standard

Course Information

Description	This course is designed to show the student how to deal with respiratory emergencies that could lead to cardiac arrest, how to give first aid for cardiac emergencies, also to obtain knowledge for prevention and first aid treatment of common emergencies as outlined by The American Red Cross.

Total Credits	3
Total Hours	45

ALH 110 Principles of Nutrition

Course Standard

Course Information

Description	Designed to help students increase their knowledge concerning their personal state of nutrition using self-studies and computer analysis. Upon completion of this course the student will be able to evaluate a person's state of nutrition considering the impact of social, scientific, psychological, political, and environmental influences upon eating patterns and habits.

Total Credits	3
Total Hours	45

ALH 115 Pharmacology

Course Standard

Course Information

Description	This course will provide the basic pharmacology principles with an emphasis on a broad discussion of the primary medications in each of the pharmaceutical classification categories. This course is designed to meet the pharmacology needs of students enrolled in pre-allied health majors and would be beneficial for others in the allied health field who desire a greater understanding or pharmacological principles related to diseases, effects of drugs on different systems of the body, interaction of drugs, side effects, contraindications and effectiveness in relation to dosages.

Total Credits	3
Total Hours	45

ALH 121 Legal and Ethical Issues in Healthcare

Course Standard

Course Information

Description	This course introduces various ethical and moral issues in the context of healthcare and medical professions. This course will examine ethical issues related to healthcare such as: beginning of life issues, healthcare policy/distribution, healthcare law, at risk populations, doctor-patient relationships, healthcare research/technology, and end of life decision making in consideration of various sociocultural, socioeconomic, and lifestyle factors. This course will also overview moral theories such as: utilitarianism, deontology, and virtue ethics and relate these theories to decision making processes at global and local levels.

Total Credits   3

Total Hours   45

ALH 130 Emergency Preparedness for Health Professionals

Course Standard

Course Information

Description	This course is designed to provide health care professionals with an orientation for their possible future roles in disaster response and the importance of staying within the scope of practice of the profession. Students will be prepared to meet the expectations of their employers, to volunteer effectively, and to be confident and safe responders.

Total Credits   1

Total Hours   15

ALH 131 Diseases, Disorders & Diagnostic Procedures

Course Standard

Course Information

Description	Course focuses on diseases and disorders by body systems that are frequently diagnosed and treated in the medical setting as well as the common diagnostic procedures used in the diagnostic process.

Total Credits 2

Total Hours 30

ALH 135 Spanish for Health Care Providers

Course Standard

Course Information

Description This workshop is designed to provide health care providers with basic and practical knowledge of the Spanish language as applied in the medical field. Students will be prepared to facilitate medical care delivery to their Spanish speaking clients. Emphasis will be placed on ability to communicate and develop a vocabulary according to the needs of each participant.

Total Credits 1

ALH 155 Pharmacology for Allied Health

Course Standard

Course Information

Description Focuses on knowledge and skills necessary for safe and therapeutic drug therapy. Emphasis is placed on drug identification and classification, pharmacological actions, side effects, as well as the legal and ethical considerations of pharmacology.

Total Credits 3

Total Hours 45

ALH 175 Pathophysiology

Course Standard

Course Information

Description This course focuses on the essential mechanisms of disordered function which produces common diseases. Common diseases are discussed, implementing examples of the basic processes covered. This is an introductory course that prepares students entering the medical field with accessible, useable and practical information.

Total Credits 4

Total Hours 60

AMT 011 Materials & Processes

Course Standard

Course Information

Description   This course is designed to develop correct and safe usage of aircraft hardware with specific emphasis on Federal Aviation Administration Regulations that pertain to the Airframe and Powerplant mechanic. Academic standard for passing this course is a minimum of 70%.

Total Hours   51

AMT 018 Engine Airflow and Fire Protection Systems

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft Induction & Airflow systems, Cooling systems, Exhaust Systems, Reverser Systems and engine fire detection and extinguishing systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Aircraft Powerplant Mechanic rating. Academic standard for passing this course is a minimum of 70%.

Total Hours   77

AMT 020 Airframe Inspection

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to airframe inspection. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subject #28. Academic standard for passing this course is a minimum of 70%.

Total Hours   55

AMT 105   Technical Mathematics

Course Standard

Course Information

Description   This course is designed to provide the technical math principles required for the Airframe and/or Powerplant mechanic. Academic standard for passing this course is a minimum of 70%.

Total Credits   2
Total Hours   42

AMT 107   Aircraft Drawings

Course Standard

Course Information

Description   This course is designed to develop theory and knowledge of blueprint reading skills with specific emphasis on Federal Aviation Administration Regulations that pertain to the Airframe and/or Powerplant mechanic. Academic standard for passing this course is a minimum of 70%.

Total Credits   1
Total Hours   18

AMT 109 Physics

Course Standard

Course Information

Description   This course is designed to develop the basic principles, fundamentals, and technical procedures of physics as they relate to the Airframe and/or Powerplant rating. Academic standard for passing this course is a minimum of 70%.

Total Credits   2
Total Hours   30

AMT 111   Materials & Processes

Course Standard

Course Information

Description   This course is designed to develop correct and safe usage of aircraft hardware with specific emphasis on Federal Aviation Administration Regulations that pertain to the Airframe and Powerplant mechanic. Academic standard for passing this course is a minimum of 70%.

Total Credits   3

Total Hours   51

AMT 112 Assembly & Rigging

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft Assembly and Rigging. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Airframe mechanic. Academic standard for passing this course is a minimum of 70%.

Total Credits   3

Total Hours   71

Pre/Corequisites

Prerequisite   AMT 179 Aircraft Sheetmetal & Non-Metallic Structures

Prerequisite   AMT 108 Aircraft Coverings

Prerequisite   AMT 167 Aircraft Welding

Prerequisite   AMT 159 Aircraft Fuel Systems

Prerequisite   AMT 153 Hydraulic & Pneumatic Power Systems

AMT 113 Basic Electricity

Course Standard

Course Information

Description A course designed to provide the technical skills to apply the electrical and electronic principles required of the Airframe and/or Powerplant mechanic. Academic standard for passing this course is a minimum of 70%.

Total Credits 4

Total Hours 75

AMT 115   Weight & Balance

Course Standard

Course Information

Description This course is designed to calculate and apply aircraft weight and balance principles as required of the Airframe and/or Powerplant mechanic. Academic standard for passing this course is a minimum of 70%.

Total Credits 2

Total Hours 45

AMT 120 Airframe Inspection

Course Standard

Course Information

Description This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to airframe inspection. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subject #28. Academic standard for passing this course is a minimum of 70%.

Total Credits 3

Total Hours 55

AMT 123 Cleaning & Corrosion Control

Course Standard

Course Information

Description   This course is designed to develop basic theory and knowledge of cleaning and corrosion control with specific emphasis on Federal Aviation Administration Regulations that pertain to the Airframe and/or Powerplant rating. Academic standard for passing this course is a minimum of 70%.

Total Credits   1

Total Hours   25

AMT 125 Fluid Lines & Fittings
Course Standard

Course Information

Description   This course is designed to develop basic theory and knowledge of aircraft fluid lines and fittings with specific emphasis on Federal Aviation Administration Regulations that pertain to Airframe and/or Powerplant mechanics. Academic standard for passing this course is a minimum of 70%.

Total Credits   1

Total Hours   27

AMT 127 Ground Operations & Servicing
Course Standard

Course Information

Description   This course is designed to develop safe skills and technical knowledge in Ground Handling procedures with special emphasis on Federal Aviation Administration Regulations that pertain to the Airframe and Powerplant mechanic. Academic standard for passing this course is a minimum of 70%.

Total Credits   1

Total Hours   27

AMT 131 General Review & Test

Course Standard

Course Information

Description Upon completion of the General curriculum this course is designed to prepare the student for the FAA Written, Oral and Practical exams. Academic standard for passing this course is a minimum of 70%.

Total Hours 2

Pre/Corequisites

Prerequisite	AMT 105 Technical Math
Prerequisite	AMT 109 Physics
Prerequisite	AMT 113 Basic Electricity
Prerequisite	AMT 107 Aircraft Drawings
Prerequisite	AMT 123 Cleaning & Corrosion Control
Prerequisite	AMT 127 Ground Operations & Service
Prerequisite	AMT 115 Weight & Balance
Prerequisite	AMT 111 Materials & Processes
Prerequisite	AMT 125 Fluid Lines & Fittings
Prerequisite	AMT 133 Regulations, Research, & Documentation

AMT 133 Regulations, Research & Documentation

Course Standard

Course Information

Description This course is designed to develop basic theory and knowledge of maintenance publications, forms & records with specific emphasis on Federal Aviation Administration Regulations that pertain to the Airframe and/or Powerplant rating. Academic standard for passing this course is a minimum of 70%.

Total Credits 3
Total Hours 60

AMT 136 Propellers

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and the technical skills required for aircraft propeller maintenance procedures, with specific emphasis on Federal Aviation Administration Regulations that pertain to Powerplant Mechanic rating. Academic standard for passing this course is a minimum of 70%.

Total Credits   3

Total Hours   64

Pre/Corequisites

Prerequisite   AMT 200 Reciprocating Engines

Prerequisite   AMT 227 Turbine Engines

Prerequisite   AMT 213 Engine Lubrication System

AMT 151 Aircraft Electrical Systems

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft electrical systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #48, #49, and #50. Academic standard for passing this course is a minimum of 70%.

Total Credits   5

Total Hours   86

AMT 153 Hydraulic & Pneumatic Power Systems

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to hydraulic and pneumatic power systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #30, #31, and #32. Academic standard for passing this course is a minimum of 70%.

Total Credits   2

Total Hours   45

AMT 154 Landing Gear, Position, & Warning Systems

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft landing gear, Position, & Warning systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #29, #51, #52. Academic standard for passing this course is a minimum of 70%.

Total Credits   3

Total Hours   85

AMT 159 Aircraft Fuel Systems

Course Standard

Course Information

Description This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft fuel systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #41, #42, #43, #44, #45, #46, and #47. Academic standard for passing this course is a minimum of 70%.

Total Credits 2

Total Hours 40

AMT 165 Cabin Atmosphere Control Systems

Course Standard

Course Information

Description This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to cabin atmosphere control systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #33, #34, and #35. Academic standard for passing this course is a minimum of 70%.

Total Credits 2

Total Hours 36

AMT 166 Fire, Ice & Rain Control

Course Standard

Course Information

Description This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to fire, ice, & rain control systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #53, #54 and #55. Academic standard for passing this course is a minimum of 70%.

Total Credits 1

Total Hours 34

AMT 167 Aircraft Welding

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to airframe aircraft welding. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Airframe mechanic. Academic standard for passing this course is a minimum of 70%.

Total Credits   1

Total Hours   30

AMT 172 Communication, Navigation, & Instruments

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to communication and navigation systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #36, #37, #38, #39, and #40. Academic standard for passing this course is a minimum of 70%.

Total Credits   2

Total Hours   64

AMT 179 Aircraft Sheet Metal & Non-Metallic Structures

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to airframe aircraft sheet metal structures, wood structures, composites and other non-metallic structures. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Airframe mechanic. Academic standard for passing this course is a minimum of 70%.

Total Credits   8

Total Hours   165

AMT 182 Aircraft Coverings and Finishes

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft coverings and finishes. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Airframe Mechanic. Academic standard for passing this course is a minimum of 70%.

Total Credits   2

Total Hours   39

AMT 186 Airframe Review & Test

Course Standard

Course Information

Description   Upon completion of the Airframe curriculum this course is designed to prepare the student for the FAA Written, Oral and Practical exams. Academic standard for passing this course is a minimum of 70%.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite	AMT 151 Aircraft Electrical Systems
Prerequisite	AMT 165 Cabin Atmosphere Control Systems
Prerequisite	AMT 120 Airframe Inspection
Prerequisite	AMT 154 Landing Gear, Position, & Warning Systems
Prerequisite	AMT 166 Fire, Ice, & Rain Control
Prerequisite	AMT 172 Communication, Navigation, & Instruments

AMT 187 General I

Course Standard

Course Information

Description This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. This course includes human factors, regulations, maintenance forms & records. Students will learn to properly: document a major repair or alteration (FAA form 337), complete airworthiness directive(AD) searches and determine applicability to aircraft, determine aircraft inspection status by reviewing maintenance records, file a malfunction defect report (MDR), interpret aircraft drawings, create a drawing of repair of alteration, interpret graphs and charts used in aviation.

Total Credits 4

Total Hours 75

AMT 188 General II

Course Standard

Course Information

Description This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: determine cubic inch displacement of aircraft engines, calculate and prove a mechanical advantage in relation to aircraft systems, weigh aircraft, determine aircraft center of gravity, determine useful fuel load, aircraft required equipment, adverse loading center of gravity, and ballast placement.

Total Credits 4

Total Hours	75

Pre/Corequisites

Prerequisite   AMT 187 General I

AMT 189 General III

Course Standard

Course Information

Description	This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to utilize hand tools, hardware & measuring devices used in the aviation industry. Students will learn the proper techniques employed in inspecting aircraft corrosion and the proper ways to prevent corrosion. In addition, students will learn how to measure, bend, and terminate fluid lines utilizing aviation fitting.

Total Credits	5
Total Hours	105

Pre/Corequisites

Prerequisite   AMT 188 General II

AMT 190 General IV

Course Standard

Course Information

Description	This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: tow aircraft, tie-down aircraft, store aircraft, fuel aircraft, identify fire hazards, fire prevention, FOD Prevention, perform circuit continuity testing, measure voltage, current, and resistance, troubleshoot circuits, and inspect and service aircraft batteries.

Total Credits	5
Total Hours	105

Pre/Corequisites

Prerequisite   AMT 189 General III

AMT 200 Reciprocating Engines

Course Standard

Course Information

Description   This course is designed to develop safety practices, comprehensive knowledge and the technical skills that are required for maintenance and operations of reciprocating engines, with specific emphasis on Federal Aviation Administration Regulations that relate to the Powerplant Mechanic rating. Academic standard for passing this course is a minimum of 70%.

Total Credits   7

Total Hours   163

AMT 210 Engine Fuel Systems

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft fuel and fuel metering systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Aircraft Powerplant Mechanic rating. Academic standard for passing this course is a minimum of 70%.

Total Credits   3

Total Hours   76

AMT 212 Engine Ignition, Starting and Electrical Systems

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive

knowledge, and technical skills required to perform maintenance procedures relevant to aircraft engine ignition, starting & electrical systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Aircraft Powerplant Mechanic rating. Academic standard for passing this course is a minimum of 70%.

Total Credits	5
Total Hours	112

AMT 213 Engine Lubrication Systems

Course Standard

Course Information

Description	This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft lubrication systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Aircraft Powerplant Mechanic rating. Academic standard for passing this course is a minimum of 70%.

Total Credits	2
Total Hours	44

AMT 218 Engine Airflow and Fire Protection Systems

Course Standard

Course Information

Description	This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft Induction & Airflow systems, Cooling systems, Exhaust Systems, Reverser Systems and engine fire detection and extinguishing systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Aircraft Powerplant Mechanic rating. Academic standard for passing this course is a minimum of 70%.

Total Credits	3
Total Hours	77

AMT 224 Engine Maintenance and Operation

Course Standard

Course Information

Description   This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft engine inspection, instrumentation, overall maintenance and operation of aircraft engines. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Aircraft Powerplant Mechanic rating. Academic standard for passing this course is a minimum of 70%.

Total Credits   5

Total Hours   95

AMT 227 Turbine Engines

Course Standard

Course Information

Description   This course is designed to develop safety practices, comprehensive knowledge and the technical skills that are required for the maintenance and operation of aircraft turbine engines, with specific emphasis on Federal Aviation Administration Regulations that relate to the Powerplant Mechanic rating. Academic standard for passing this class is a minimum of 70%.

Total Credits   6

Total Hours   119

AMT 231 Powerplant Review & Test

Course Standard

Course Information

Description   Upon completion of the Power plant curriculum this course is designed to prepare the student for the FAA Written, Oral and Practical exams. Academic standard for passing this course is a minimum of 70%.

Total Credits   2

Total Hours	30

Pre/Corequisites

Prerequisite	AMT 200 Reciprocating Engines
Prerequisite	AMT 227 Turbine Engines
Prerequisite	AMT 213 Engine Lubrication Systems
Prerequisite	AMT 136 Propellers
Prerequisite	AMT 212 Engine Ignition, Starting and Electrical Systems
Prerequisite	AMT 218 Engine Airflow and Fire Protection Systems
Prerequisite	AMT 224 Engine Maintenance and Operation

AMT 233 Airframe I

Course Standard

Course Information

Description	This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: Tension flight control cables, identify hardware used in rigging, weigh and balance surfaces, adjust various flight control systems, document component removal, identify airframe styles and components.

Total Credits	4
Total Hours	75

Pre/Corequisites

Prerequisite	AMT 190 General IV

AMT 234 Airframe II

Course Standard

Course Information

Description	This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: inspect

aviation welds, identify defects in welds, determine the airworthiness of welds, install and remove aviation fasteners, and design, prepare, and install a repair patch on an aircraft or component.

Total Credits   4

Total Hours   75

Pre/Corequisites

Prerequisite   AMT 233 Airframe I

AMT 235 Airframe III

Course Standard

Course Information

Description   This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to correctly: identify woods used in aviation, inspect fabric coverings, clean and inspect acrylics, inspect composite materials, perform a tap test, and complete a layup for a composite repair.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   AMT 234 Airframe II

AMT 236 Airframe IV

Course Standard

Course Information

Description   This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: remove and install a selector valve; inspect, remove, and clean a hydraulic system filter; remove, install, and operationally check a hydraulic pump and inspect and troubleshoot pneumatic systems. In addition, students will inspect, repair, and troubleshoot fuel systems; service a fuel system strainer; and inspect fuel tanks.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   AMT 235 Airframe III

AMT 237 Airframe V

Course Standard

Course Information

Description   This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: install airframe electrical wiring, switches, and devices; secure wire bundles and wire termination; determine the electrical load, check the output voltage of a system, inspect and service landing and operational lighting; troubleshoot the electrically heated pitot-static system, inspect thermal anti-ice systems, inspect and operate a deicer boot, inspect and operate electrically heated windshields.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   AMT 236 Airframe IV

AMT 238 Airframe VI

Course Standard

Course Information

Description   This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: inspect land gear, service land gear, inspect wheels, inspect brakes, inspect bearings, inspect tires, remove and replace brake linings, service landing gear air/oil shocks struts, bleed hydraulic brake systems, troubleshoot a hydraulic brake system, service a nose wheel shimmy damper, conduct a 100-hour Inspection on the airframe.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   AMT 237 Airframe V

AMT 239   Airframe VII

Course Standard

Course Information

Description   This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: perform a static system leak test, remove and install instruments, inspect and operate a magnetic compass, perform VHF communications checks, inspect and service emergency locator transmitters, troubleshoot oxygen systems, operation of oxygen generators, inspect combustion heater fuel systems, troubleshoot air cycle air-conditioning systems, troubleshoot fire detection systems, perform operational checks on fire detection and extinguishing systems, service outflow pressurization valves, and operate and service wastewater systems.

Total Credits   4

Total Hours   75

Pre/Corequisites

Prerequisite   AMT 238 Airframe VI

AMT 251 Accelerated Certification - General/Powerplant

Course Standard

Course Information

Description This review course assists the student in preparation for FAA testing for the Mechanic's Airframe and Powerplant License. Topics covered include: Technical Math, Physics, Basic Electricity, Aircraft Drawings, Maintenance Forms, Mechanic Privileges, Ground Operations, Weight& Balance, Materials & Processes, Fluid Lines & Fittings, Cleaning & Corrosion, Reciprocating Engines, Turbine Engines, Engine Fuel Systems, Auxiliary Power Units, Propellers, Engine Instrument Systems, Engine Fire Protection Systems, Engine Electrical Systems, Ignition & Starting Systems, Engine Lubrication Systems, Engine Cooling Systems, Fuel Metering Systems, Induction & Airflow Systems, Engine Exhaust & Reverser Systems, and Engine Inspection.

Total Credits 3

Total Hours 64

Pre/Corequisites

Students must meet the experience requirements of FAR 65.71 Eligibility Requirements and 65.77 Experience Requirements.

Students are expected to have a Microsoft device with an 8.1 operating system.

Provide full records pertaining to work history and documentation of prior experience to determine eligibility. Students will be provided a pamphlet designed to assist them with the determination of their eligibility in meeting the experience requirements.

Need to have received an 8610-2 Airman Certificate Authorization form from the FAA prior to attending class.

AMT 252 Accelerated Certification - General/Airframe/Powerplant

Course Standard

Course Information

Description This review course assists the student in preparation for FAA testing for the Mechanic's Airframe and Powerplant License. Topics covered include: Technical Math, Physics, Basic Electricity, Aircraft Drawings, Maintenance Forms, Mechanic Privileges, Ground Operations, Weight& Balance, Materials & Processes, Fluid Lines & Fittings, Cleaning & Corrosion, Sheet Metal, Wood Structures, Aircraft Coverings, Aircraft Finishes, Welding, Aircraft Fuel Systems, Hydraulic/Pneumatic Systems, Assembly & Rigging, Aircraft Landing Gear Systems, Position & Warning Systems, Aircraft Electrical Systems, Fire Protection Systems, Ice & Rain Control Systems, Cabin Atmosphere & Control, Aircraft Instrument Systems, Communication & Navigation, Airframe Inspection, Reciprocating Engines, Turbine Engines, Engine Fuel Systems, Auxiliary Power Units, Propellers, Engine Instrument Systems, Engine Fire Protection Systems, Engine Electrical Systems, Ignition & Starting Systems, Engine Lubrication Systems, Engine Cooling Systems, Fuel Metering Systems,

Induction & Airflow Systems, Engine Exhaust & Reverser Systems, and Engine Inspection.

Total Credits   5

Total Hours   104

Pre/Corequisites

Students must meet the experience requirements of FAR 65.71 Eligibility Requirements and 65.77 Experience Requirements.

Students are expected to have a Microsoft device with an 8.1 operating system.

Provide full records pertaining to work history and documentation of prior experience to determine eligibility. Students will be provided a pamphlet designed to assist them with the determination of their eligibility in meeting the experience requirements.

Need to have received an 8610-2 Airman Certificate Authorization form from the FAA prior to attending class.

AMT 253 Powerplant I

Course Standard

Course Information

Description   This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: troubleshoot, inspect, and install fuel pressure indicators, fuel flow transmitters, tachometer, oil pressure, temperature, EGT, EPR, manifold warning system, low-pressure warning gauges, troubleshoot and repair an engine fire extinguishing system, perform a cylinder compression check, perform an engine start, inspect engine mounts, perform the engine portion of a 100-hour inspection.

Total Credits   4

Total Hours   75

Pre/Corequisites

Prerequisite   AMT 190 General IV

AMT 254 Powerplant II

Course Standard

Course Information

Description   This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: install pistons and wrist pins, install a cylinder, operate and troubleshoot a reciprocating engine, inspect and rig engine controls, remove and install a propeller, measure propeller blade angle, repair a propeller blade, adjust propeller governors, inspect and service a propeller anti-icing system.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   AMT 253 Powerplant I

AMT 255 Powerplant III

Course Standard

Course Information

Description   This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: Inspect, troubleshoot, and repair a continuous flow fuel injection system; remove, inspect, and install a turbine engine fuel nozzle; remove and install a carburetor metering jet; remove and install a float type carburetor, remove and install a fuel pump, adjust fuel pump pressure, inspect fuel selector valve. Students will inspect and troubleshoot oil system components and perform oil pressure adjustments. Students will also inspect turbochargers and air intake manifolds and repair cylinder baffles.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   AMT 254 Powerplant II

AMT 256 Powerplant IV

Course Standard

Course Information

Description	This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: perform turbine engine inlet, and compressor guide vain inspections, map airflow and direction changes inside a turbine engine inspect a combustion liner, troubleshoot causes of engine performance loss, inspect a particle separator, check a bleed air system, perform an induction and cooling system inspection, inspect turbine engine exhaust system and components.

Total Credits   6

Total Hours   120

Pre/Corequisites

Prerequisite   AMT 255 Powerplant III

AMT 257 Powerplant V

Course Standard

Course Information

Description	This course develops correct safety practices, comprehensive knowledge, and technical skills required to perform aviation maintenance procedures that align with the current Airmen Certification Standards. Students will learn to properly: troubleshoot an aircraft's electrical generating system, remove and install an engine direct drive electric starter, repair engine electrical systems, fabricate bonding jumpers, Inspect engine electrical connectors, set magneto internal timing, time magneto to aircraft engine, troubleshoot and repair ignition systems, Inspect ignition harness, troubleshoot engine ignitors, Inspect turbine engine ignition systems.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   AMT 256 Powerplant IV

ART 100 Art Appreciation

Course Standard

Course Information

Description   This course is designed to develop a personal appreciation of art. By combining a study of concepts and artist's work, the student should improve one's judgment and ability to understand art critically.

Total Credits   3

Total Hours   45

BIO 100 Biology Review

Course Standard

Course Information

Description   This course is designed to help the students increase their knowledge concerning basic biological concepts. It is not intended to replace BIO110 Principles of Biology. Recommended for students planning to take BIO150 Human Anatomy & Physiology or BIO160 Microbiology who have not had a recent life science course, or students wishing to prepare for BIO110 Principles of Biology. This course is graded on a pass/fail scale so students will not be receiving a grade. Students must score 70% of the available points to pass the class.

Total Credits   1

Total Hours   15

BIO 110 Principles of Biology

Course Standard

Course Information

Description   An introduction to fundamental biological concepts that includes molecular biology, cellular structure and function, human biology, and ecology. Students will have an understanding of the nature of science, levels of organization, bioenergetics, reproduction, inheritance, and the mechanisms of change. Laboratory stresses the process of scientific investigation and observation of biological processes.

Total Credits   5

Total Hours   105

BIO 120 Environmental Biology

Course Standard

Course Information

Description   An interdisciplinary study of the environment investigating how nature works and how things are interconnected. Based on an understanding of ecological concepts and principles, students examine lifestyle issues and critically analyze the relationship among population, natural resources, land use, agriculture, biodiversity, industrialization and pollution. Environmental problems are examined from scientific, ethical, economic and sociological perspectives to enable students to understand the relevance of biology to contemporary issues in human society.

Total Credits   3

Total Hours   45

BIO 125 Science Prospectus

Course Standard

Course Information

Description   An interdisciplinary study of how science influences all aspects of human life. Students will examine lifestyle issues and critically analyze the relationship among population, natural resources, land use, agriculture, biodiversity, industrialization and pollution and our role in these processes. Everything from food science to astronomy will be explored. Topics will be centered around problem solving and discussions using scientific data and critical thinking skills.

Total Credits   3

Total Hours   45

BIO 130 Biology I

Course Standard

Course Information

Description   A study of the fundamental concepts in cellular and molecular biology, that lead to further studies in the diversity of life. Emphasis in lab is placed on the biological

functions that define life, including basic biochemistry, cell and membrane functions, bioenergetics, reproduction and genetics, and phylogeny and evolution.

Total Credits	5
Total Hours	105

Pre/Corequisites

Prerequisite   BIO 110 Principles of Biology

BIO 135 Biology II

Course Standard

Course Information

Description	A study of the fundamental concepts of biology as they apply to levels of organization, from the bacteria through the vertebrates, and ecosystems. Lecture emphasis is on the organization, physiology, and diversity of life as studied through the kingdoms. Laboratory work emphasizes the structural comparison of major kingdoms and phyla.

Total Credits	5
Total Hours	105

Pre/Corequisites

Prerequisite   BIO 130 Biology I

BIO 145 Human Anatomy & Physiology I

Course Standard

Course Information

Description	This course represents the first of an eight (8) credit hour Anatomy & Physiology course and is designed to provide students with a thorough study of the anatomy & physiology of the human body. The student is expected to enroll in the second half of the course (BIO 146 Human Anatomy & Physiology II) during the same academic year, and both courses (BIO 145 Human Anatomy & Physiology I and BIO 146 Human Anatomy & Physiology II) must be taken to be equivalent to BIO 150 Human Anatomy & Physiology. Lecture and lab studies will include: organization of the body; cells; tissues; membranes and glands; skeletal; muscular; nervous; sensory and endocrine system.

Total Credits	4
Total Hours	90

Pre/Corequisites

Prerequisite	BIO 100 Biology Review Or

Prerequisite	BIO 110 Principles of Biology

BIO 146 Human Anatomy & Physiology II

Course Standard

Course Information

Description	This course represents the second of an eight (8) credit hour Anatomy and Physiology course and is designed to provide students with a thorough study of the anatomy and physiology of the human body. The student is expected to enroll in the first half of the course (BIO 145 Human Anatomy & Physiology I) during the same academic year, and both courses BIO 145 Human Anatomy & Physiology I and BIO 146 Human Anatomy & Physiology II must be taken to be equivalent to BIO 150 Human Anatomy & Physiology. Lecture and lab studies will include; the cardiovascular system, lymphatic system, respiratory system, digestive system, metabolism, urinary system, electrolyte and acid-base balance and reproductive systems.

Total Credits	4
Total Hours	90

Pre/Corequisites

Prerequisite	BIO 145 Human Anatomy & Physiology I

ARU 125 Advanced Assembly

Course Standard

Course Information

Description	Provides students with instruction in advanced assembly techniques including dimpling, repair, sealing, removal, and replacement of fasteners, and skills required to assemble fuselage and related skin assemblies. Emphasis is placed on the demonstration and practice of techniques in the laboratory setting. Repair techniques and the more difficult applicable skills for aviation manufacturing are the focus of this course.

Total Credits   4

Total Hours   90

Pre/Corequisites

Prerequisite   ARU 115 Sheetmetal Assembly

ARU 110 Composite Fabrication

Course Standard

Course Information

Description   This course will begin with the fundamentals of composite theory in an interactive online environment. Students then apply the concepts to industry-based projects. Topics include materials, ply orientation, equipment, and processes of tool prep, hand lay-up, bonding, vacuum bagging, trim, and assembly.

Total Credits   4

Total Hours   90

ARU 115 Sheetmetal Assembly

Course Standard

Course Information

Description   Provides instruction in the fundamentals of sheetmetal assembly, meeting set production standards, and the use of common aircraft sheetmetal tools and materials. Students learn how to identify fasteners, install and remove fasteners, assemble sheetmetal components and identify and maintain proper "skin" quality. Students will apply math, precision instrument, blueprint reading, and safety skills to industry-based projects.

Total Credits   4

Total Hours   90

ARU 120 Composite Repair I

Course Standard

Course Information

Description   This course begins with an understanding of the inspection process during repair procedures. Emphasis will be placed on the importance of documentation in the inspection of repair. This course utilizes online, classroom and laboratory learning environments. In the lab setting students will learn to effectively remove the finish, disassemble and remove damaged composite material. Students will learn how to replace, vacuum bag and cure projects using hot bonders. Special attention will be paid to developing the student's tactile skills in all of these areas.

Total Credits   4

Total Hours   90

Pre/Corequisites

Prerequisite   ARU 110 Composite Fabrication

ARU 130 Electrical Assembly

Course Standard

Course Information

Description   This course will provide students with hands-on experience with shop grade test equipment while performing experiments using LabVolt Computer-Aided Instructional Electrical/Electronics Training System. Laboratory experiments are conducted on pre-assembled boards maximizing student productivity and allowing increased instructor interaction and support.

Total Credits   4

Total Hours   90

ARU 135 Electronics Basics

Course Standard

Course Information

Description   The student will learn methods of construction and repair of avionics system wiring harnesses. Students will learn and perform practice exercises with the most common types of aircraft connectors, tooling, and wiring systems used in today's aircraft.

Total Credits   4

Total Hours   90

ARU 140 Composite Repair II

Course Standard

Course Information

Description   Students will expand on process an techniques introduced in composite repair I. Students will utilize repair techniques to complete multilayer composite repairs on airplane fuselages or analogous items. Emphasis will placed on taper sanding techniques and proper repair ply orientation.

Total Credits   4

Total Hours   90

Pre/Corequisites

ARU 145 Machining Basics

Course Standard

Course Information

Description   Students will learn to identify basic lines, views, and abbreviations used in blueprints, interpret basic 2 D sketches using orthographic projections and blueprints, determine dimensions of features of simple parts, sketch simple parts with dimensional measurements, and determine dimensions of a multi-feature part. Students will then learn to develop math skills for machine tool operations, perform preventive maintenance and housekeeping on conventional mills and lathes, select work holding devices for mills, lathes and other machine tools, calculate feeds and speeds, remove material using milling and turning processes, use a vertical mill to center drill, drill and ream holes, change tools and tool holders on milling machines.

Total Credits   4
Total Hours   90

ARU 150 Advanced Measuring Instruments

Course Standard

Course Information

Description   In this course, students will learn advanced measuring techniques that allow them to earn an NC3 certification in 3D printing.

Total Credits   4
Total Hours   90

ARU 155 Aerospace Paint

Course Standard

Course Information

Description   Students will learn the fundamentals of paint composition, application, and processing. As such, basic ingredients of paint properties will be discussed. Paint selection, performance criteria, application methods, defects, problem resolution,

future paint and raw materials needs will be discussed. Additionally, students will learn concepts related to surface preparation from various coating and painting applications on all interior and exterior aircraft components. The content also includes safety procedures regarding hazardous waste as well as more advanced industry-based surface preparation and material application techniques. Students will receive NC3 PPE Certifications.

Total Credits	4
Total Hours	90

ARU 160 Process Mechanic

Course Standard

Course Information

Description	Students will be trained in a variety of process including: masking, grinding, deburring, sanding, priming, measuring, anodizing, schematic reading, blending, detailing, hazardous material handling, Students will receive NC3 PPE Certification.

Total Credits	4
Total Hours	90

ARU 165 Aviation Fundamentals of Quality

Course Standard

Course Information

Description	This course is designed to familiarize the students with the concepts and practices of Lean Manufacturing as applied in industry today. Students begin with a discussion of Lean Manufacturing's place in the overall process of continuous improvement. Students will then move on to learning to apply basic elements of lean, lean system design, lean tools, and measurement methods to industry based scenarios. This course also provides an overview of the materials and processes used in manufacturing high performance, lightweight, and reliable structures for aerospace products. Emphasis is placed on process evaluation techniques that can be extrapolated to other system areas such as new products and new technology.

Total Credits	4
Total Hours	90

ARU 170 Aviation Assembly Core

Course Standard

Course Information

Description   In this course, students will engage with the critical aspects of Aviation Manufacturing assembly. The core topics will include safety, precision measurement, blueprint reading, sealing, and electrical bonding techniques as well as quality control.

Total Credits   7

Total Hours   120

AVC 102 Precision Instruments

Course Standard

Course Information

Description   This course provides students with the knowledge and skills needed to utilize precision measurement tools in the manufacturing and aerospace environment. In an on line interactive environment students will learn to utilize the different types of tools, interpret the measurement results and apply those results to industry specific scenarios.

Total Credits   1

Total Hours   15

Pre/Corequisites

Corequisite   MTH 020 Math Fundamentals

AVC 103 Geometric Dimensioning & Tolerancing

Course Standard

Course Information

Description   Provides an understanding of the basic terms and principles of Geometric Dimensioning and Tolerancing. The course provides students with the skills and knowledge necessary to identify GD&T symbols and how to interpret those symbols. This course is taught using and interactive on line environment.

Total Credits   1

Total Hours   15

AVC 104 Quality Control Concepts

Course Standard

Course Information

Description	This course covers quality assurance principles including the history of the quality movement, group problem solving, data collection, control charts, statistical methods such as statistical process control (SPC), process capability studies, and the concepts associated with lean manufacturing.
Total Credits	1
Total Hours	15

AVC 105 Aircraft Familiarization

Course Standard

Course Information

Description	This course is designed to provide an introduction to the world of aviation. Using an interactive on line environment students will be introduced to basic aerospace concepts including the history of flight, principles of flight, and the role of regulation in the industry and the primary assemblies and structures of an airplane.
Total Credits	1
Total Hours	15

AVC 107 Fundamentals for Aerospace Manufacturing

Course Standard

Course Information

Description	This course provides an overview of the materials and processes used in manufacturing high performance, lightweight, and reliable structures for aerospace products. Emphasis is placed on process evaluation techniques that can be extrapolated to other system areas such as new products and new technology. Instruction will take place using an interactive on line environment.
Total Credits	1
Total Hours	15

AVC 108 Aircraft Systems & Components

Course Standard

Course Information

Description   This course is designed to provide the aviation student with an in-depth knowledge of the major systems and components of the aircraft. Using an interactive on line environment students will learn the operation of each of the major systems.

Total Credits   4

Total Hours   60

AVC 110 Safety/OSHA 10

Course Standard

Course Information

Description   The 10- Hour General Industry Outreach training Program is intended to provide entry-level general industry workers broad awareness on recognizing and preventing hazards on a general industry site. The training covers a variety of safety and health hazards which a worker may encounter at a general industry site. OSHA recommends this training as an orientation to occupational safety and health. Workers must receive additional training on hazards specific to their job. Training will emphasize hazard identification, avoidance, control and prevention, not OSHA standards. Instructional time will be a minimum of 10 hours.

Total Credits   1

Total Hours   15

AVC 112 Blueprint Reading

Course Standard

Course Information

Description   This course is an introduction to reading and interpreting blueprints. Topics include blueprint views, lines, dimensions and tolerances and blueprint symbols. Working in an interactive online environment students' learn a systematic approach to reading blueprints.

Total Credits   2

Total Hours   30

AVC 117 Hand & Power Tools

Course Standard

Course Information

Description   This course provides the technical knowledge used in Aviation and Manufacturing areas related to hand and power tools.

Total Credits   4

Total Hours   75

AVC 120 Introduction to Sealing

Course Standard

Course Information

Description   This course provides an introduction to basic sealing principles; including tools, sealant selection, application processes and cleaning methods. Instruction is delivered using interactive online course content.

Total Credits   1

Total Hours   15

AVC 125 Bonding and Grounding

Course Standard

Course Information

Description   This course provides an overview of electrical bonding and grounding theory, required tools and procedures and final quality control. Students learn using interactive online content.

Total Credits   1

Total Hours   15

AVC 127 Aviation Assembly Core

Course Standard

Course Information

Description   This course provides students with the core knowledge necessary to be successful as an Aviation Sheetmetal Assembler. The topics will include safety, precision measurement, blueprint reading, sealing and electrical bonding techniques as well as quality control.

Total Credits   7

Total Hours   120

AVC 135 Hand Tools

Course Standard

Course Information

Description   This course provides an introduction to the various hand tools used in aerospace industry. The course also introduces the student to several aerospace fasteners including temporary fasteners, bolts, and lock bolts, Hi-Lok and rivets.

Total Credits   1

Total Hours   15

AVC 137 Precision Measuring

Course Standard

Course Information

Description   This course provides students with the knowledge and skills needed to utilize precision measurement tools in the manufacturing and aerospace environment. Students will learn to utilize the different types of tools, interpret the measurement results and apply those results to industry specific scenarios.

Total Credits   2

Total Hours   30

AVC 140 Electrical Bonding & Grounding

Course Standard

Course Information

Description   This course provides the specific technical and manufacturing skills and knowledge required to prepare electrical bonding and grounding locations in the aerospace

industry. The topics are presented online using interactive content.

Total Credits 1

Total Hours 15

AVC 145 Power Island

Course Standard

Course Information

Description   This course provides the technical knowledge and skills necessary to operate power island equipment. Students are introduced to the equipment using interactive online course content.

Total Credits 1

Total Hours 15

AVC 150 Human Factors

Course Standard

Course Information

Description   This course provides students with an overview of the impact of human factors on the safe operation and maintenance of an aircraft. Topics will include a review of 12 most common human factors that can negatively impact the functioning of an aircraft and how to avoid these errors. Case studies will be used to help student apply what they learn to real world situations.

Total Credits 1

Total Hours 15

AVC 155 Aircraft Manufacturing Advanced Fastening Practices

Course Standard

Course Information

Description   This course provides an overview of the knowledge and technical skills required for the installation of critical aviation structural fastener. These specific fasteners are required above and beyond the normal assembly and require specific techniques for

installation.

Total Credits   1

Total Hours   15

AVC 160 Aircraft Control Surface Rigging

Course Standard

Course Information

Description   This course provides an overview of the knowledge and technical skills required to perform maintenance procedures relevant to aircraft control surface rigging.

Total Credits   1

Total Hours   15

AVC 165 Technical Writing

Course Standard

Course Information

Description   This course provides students with an overview of the process used to create effective technical documents. Topics include the three C's of good technical writing including clarity, conciseness and completeness, the five steps of creating successful technical documents, and the importance of accuracy.

Total Credits   1

Total Hours   15

AVC 170 Conflict Resolution

Course Standard

Course Information

Description   This course provides the basics of good communication skills. Topics include the different views of conflict, types of listening skills and techniques for how to be an

effective communicator; different conflict management styles such as positional bargaining, collaborative approach and the interest based relational approach.

Total Credits   1

Total Hours   15

AVC 190 Aerospace Applied Learning

Course Standard

Course Information

Description   The Aerospace Applied Learning course represents an educational strategy linking the classroom with the acquisition of knowledge in the workplace. Through direct observation, reflection and evaluation, students gain an insight into the internship site's work, mission, and audience, how these relate to their academic study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals. This course is designed to be available from 4 to 8 credits.

Total Credits   4

Total Hours   180

AVT 101 Electricity & Electronics I

Course Standard

Course Information

Description   This course is designed to introduce the student to the fundamental concepts of electricity and electronics that involve direct current (dc) and alternating current (ac), including series, parallel and series-parallel resistive circuits, magnetism electro-magnetism, capacitance, inductance, and transformers. The lab portion of this course will provide students with hands on experience with shop grade test equipment while performing experiments. Laboratory experiments are conducted on pre-assembled boards maximizing student productivity and allowing increased instructor interaction and support.

Total Credits   4

Total Hours   90

Corequisite   MTH 101 Intermediate Algebra Or MTH 112 College Algebra

AVT 103   Avionics

Course Standard

Course Information

Description   This course is designed to give an overview of the entire avionics field. All Major avionics systems, their components and fundamentals of system interactions will be examined. Common avionics abbreviations and acronyms, relevant FAA regulations, and system usages will be studied.

Total Credits   3

Total Hours   45

AVT 105 Avionics Systems & Troubleshooting

Course Standard

Course Information

Description   This course introduces the student to avionics testing and troubleshooting. First, students will study the troubleshooting theory of VHF COM, VHF NAV, ILS, Marker Beacon, DME, Transponder, and Pitot-Static systems. Further study of complex wiring diagrams will help the student relate the theoretical to the practical. Then, in the lab portion of this course, the student will operate the most common avionics test equipment: and will learn to perform standard functional tests: VHF COM, VHF NAV, ILS, Marker Beacon, Transponder, DME, SWR, and operation of a Time Domain Reflectometer. Troubleshooting common avionics problems will also be introduced as students troubleshoot system faults on avionics system trainers and various aircraft.

Total Credits   5

Total Hours   120

AVT 108 Wiring & Cannon Plug Lab

Course Standard

Course Information

Description   The student will learn methods of construction and repair of avionics system wiring harnesses. Students will learn and perform practice exercises with the most common types of aircraft connectors, tooling, and wiring systems used in today's aircraft.

Total Credits   2
Total Hours   60

AVT 110 Communication, Navigation & Surveillance Systems I

Course Standard

Course Information

Description   This course and its associated laboratory section is the first of two courses which study the electrical and electronic characteristics of typical aircraft electrical power generation and distribution systems, instrument systems, communications systems and navigation systems. Students will learn the primary system characteristics and interconnection requirements of typical avionics systems.

Total Credits   5
Total Hours   120

AVT 112 Communication, Navigation & Surveillance Systems II

Course Standard

Course Information

Description   This course and its associated laboratory section continues the study of typical avionics systems. In this course, students will learn the characteristics and requirements of integrated electronics systems such as the Garmin. They will also learn basic instrument theory and operation and will study engine and system operation monitoring. All theory oriented studies are performed under this class. In the lab portion of this course the student will construct and install a wire harness for a small general aviation avionics and instrument panel, construct a pitot-static system, wring out their harness, install their harness, perform safe-to-turn-on testing, and finally, install the radios and instruments and final test the completed avionics and instrument system.

Total Credits   4
Total Hours   105

Pre/Corequisites

Prerequisite   AVT 110 Communication, Navigation & Surveillance Systems I

AVT 122 Aircraft and Electronics for NCATT Applications

Course Standard

Course Information

Description This class helps student increase the knowledge and skills required to troubleshoot and repair practical electronics projects and prepares the student to be successful on the avionics primary certification test given by the National Center for Aerospace and Transportation Technologies.

Total Credits 4

Total Hours 60

AVT 131 Electricity and Electronics II

Course Standard

Course Information

Description This course is the continuation of AVT 101 and is designed to introduce the student to the fundamental concepts of electricity and electronics that involve direct current (dc) and alternating current (ac), including series, parallel and series-parallel resistive circuits, magnetism electro-magnetism, capacitance, inductance, and transformers. The lab portion of this course will provide students with hands on experience with shop grade test equipment while performing experiments. Laboratory experiments are conducted on pre-assembled boards maximizing student productivity and allowing increased instructor interaction and support.

Total Credits 4

Total Hours 90

Pre/Corequisites

Prerequisite   AVT 101 Electricity & Electronics I

AVT 137 Fundamentals of Flight

Course Standard

Course Information

Description The Fundamentals of Flight students will learn the basic forces acting on aircraft in flight, Aircraft primary flight controls, Aircraft secondary flight controls, and the theory of autopilot operation, with an introduction to aircraft flight instruments as well as aircraft navigation, including dead reckoning, ground-based radio navigation, space-based radio navigation. In addition, the course will cover an introduction to aircraft

systems such as retractable gear operation and indication. Engine indication and fuel quantity indication will be introduced as well.

Total Credits   3

Total Hours   45

AVT 145 Troubleshooting Essentials

Course Standard

Course Information

Description   The Troubleshooting Essentials course instructs today's Avionics technicians on a logical approach to solving aircraft problems. The course consists of lectures and hands-on practice using computer simulations of aircraft systems and related test equipment. Using the simulation, the technician analyzes the fault and chooses maintenance actions such as continuity tests, bench checking, and component swapping that they might apply to correct the problem. In addition, the simulation program not only evaluates the logic used but also keeps track of the time and expenses incurred by the technician while solving problems.

Total Credits   3

Total Hours   75

AVT 150 UAS Operations

Course Standard

Course Information

Description   This course is an introduction to small unmanned aircraft systems (UAS) including knowledge areas covered on the airman knowledge test for a Remote Pilot Certificate with a Small Unmanned Aircraft Systems Rating. Successful completion will prepare the student for the FAA Part 107 Remote Pilot Certificate.

Total Credits   3

Total Hours   45

AVT 155 Advanced Wiring

Course Standard

Course Information

Description   The Advanced Wiring course will instruct students in the fabrication and installation of electronic wiring interconnect systems. This instruction will include termination of

individual stranded wires, shielded wires, twisted shielded pairs, and co-axial cables to cannon plugs, plastic connectors, terminal lugs, and terminal and ground blocks. Through classroom discussion and hands-on training, students will learn about handling wire harnesses, ESD protection, proper wire routing, wire protection, electrical bonding, connector buildup, contact insertion, and extraction.

Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite	AVT 108 Wiring & Cannon Plug or ELT 127 Wiring & Cannon Plug

BIO 150 Human Anatomy & Physiology

Course Standard

Course Information

Description	A detailed study of the structure and function of the human body. Laboratory work includes tissue examination, basic physiological experiments and structural identification of all organ systems.

Total Credits	5
Total Hours	105

BIO 151 Anatomy & Physiology Enhancement

Course Standard

Course Information

Description	This course provides for an elaboration of either the anatomy or the physiology of foundation topics presented in BIO150 Human Anatomy and Physiology. Topics can include cell structure and function, muscular system, nervous system, endocrine system, immune system, cardiovascular system, respiratory system, digestive systems and/or urogenital system. This course is graded on a pass/fail scale and no letter grade will be given. Passing credit will be awarded when the student satisfactorily completes a minimum of 75% of the content assigned for this course. Note: Core content may vary by semester as dictated by student learning assessments. Additional topic lists may be distributed each semester as instructors are not restricted from adding topics for enrichment.

Total Credits	1

Pre/Corequisites

Prerequisite	BIO150 Human Anatomy and Physiology

BIO 160 Microbiology

Course Standard

Course Information

Description   An introduction to microorganisms and their morphology, physiology, genetics and distribution. Emphasis is placed on the relationship of microorganisms to disease and the human immune responses. Techniques involving staining, culturing, identifying and biochemistry are considered in laboratory.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   BIO 110 Principles of Biology

Prerequisite   BIO 100 Biology Review

CAT 101 CATIA Part Design & Sketcher

Course Standard

Course Information

Description   This course provides an introduction to the 3D EXPERIENCE platform, including searching, creating and editing objects. This course covers the creation of solid parts without complex contours. Students will be introduced to the part environment of 3D EXPERIENCE and learn how to work between the Sketcher and Part Design workbenches to create individual parts.

Total Credits   4

Total Hours   90

Pre/Corequisites

Prerequisite   MCD 104 Blueprint Reading for Drafters or MMG 113 Print Reading or equivalent

CAT 102 CATIA Drafting

Course Standard

Course Information

Description   This course covers the creation of engineering drawings. Students will be introduced to the drafting environment of 3DExperience and learn how to create drawings from parts and products.

Total Credits   4

| **Total Hours** | 90 |

Pre/Corequisites

| Prerequisite | CAT 101 CATIA Part Design & Sketcher |

CAT 103 CATIA 3D Tolerancing & Annotations
Course Standard

Course Information

| **Description** | This course is for those interested in model based definition, where the 3D model is the master instead of the draft sheet. This course covers all of the necessary options to properly apply tolerancing and annotations on the 3D part or product. |

| **Total Credits** | 4 |
| **Total Hours** | 90 |

Pre/Corequisites

| Prerequisite | CAT 101 CATIA Part Design & Sketcher |

CAT 105 CATIA Assembly Design
Course Standard

Course Information

| **Description** | This course covers the use of multiple parts to create an assembly. This includes manipulating parts in an assembly, creating engineering connections and analyzing assemblies. It also covers designing within the context of an assembly, including creating and using publications. |

| **Total Credits** | 4 |
| **Total Hours** | 90 |

Pre/Corequisites

| Prerequisite | CAT 101 CATIA Part Design & Sketcher |

CAT 110 CATIA Wireframe & Surfaces

Course Standard

Course Information

Description   This course is an extension of the part environment which covers the use of wireframe and surface geometry to create complex contours. This course concentrates on the tools available and how to integrate this geometry back into a solid part.

Total Credits   4
Total Hours   90

Pre/Corequisites

Prerequisite   CAT 101 CATIA Part Design & Sketcher

CAT 115 CATIA Prismatic Machining

Course Standard

Course Information

Description   This course is the beginning manufacturing course. This course covers the machining operations involved in 3-axis milling. Students will be introduced to the process environment of 3DExperience and learn how to work between the process, part and product environments.

Total Credits   4
Total Hours   90

Pre/Corequisites

Prerequisite   CAT 101 CATIA Part Design & Sketcher
Prerequisite   CAT 105 CATIA Assembly Design

CAT 120   CATIA ENOVIA LCA

Course Standard

Course Information

Description   This course provides students with a thorough background in the Enterprise Innovation via Life Cycle Applications. Student will learn to utilize the ENOVIA system to manage a product from initial conceptual drawings, through 3D modeling, to retirement of the product.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   CAT 101 CATIA Part Design & Sketcher

Prerequisite   CAT 105 CATIA Assembly Design

CAT 122 CATIA ENOVIA DMU

Course Standard

Course Information

Description   This course is intended for students who want to learn to view and analyze CAD data. Students are introduced to the product environment and the 2D viewer environment. Topics include various analytical and navigational tools and functional dimensioning and tolerancing information available within ENOVIA DMU

Total Credits   2

Total Hours   60

CAT 124 CATIA Surface Machining

Course Standard

Course Information

Description   This course is a continuation in the manufacturing environment. This course covers the more advanced machining operations involved in full 3-axis and multi-axis machining. Students will learn how to integrate the manufacturing tools available in Prismatic Machining and Mill-Turn Machining.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   CAT 101 CATIA Part Design & Sketcher

Prerequisite   CAT 105 CATIA Assembly Design

Prerequisite   CAT 115 CATIA Prismatic Machining

CCP 100 Introductory Craft Skills

Course Standard

Course Information

Description   This course is the Core Curriculum for Introductory Craft Skills under the National Center for Construction Education (NCCER). This course is NCCER's basic course for all construction, maintenance and pipeline occupations. This course covers basic safety obligations of workers, supervisors and managers; reviews the role of company policies and OSHA regulations; introduces trainees to hand and power tools widely used in the construction industry, and their proper uses. Students will

also become familiarized with basic blueprint terms, components and symbols

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   SAF 101 Safety Orientation/OSHA 10

CCP 105 Carpentry Basics

Course Standard

Course Information

Description   This course is the curriculum for Carpentry Basics under the National Center for Construction Education (NCCER). The course covers eight topics and starts by introducing the carpentry trade, including history, career opportunities, and requirements. The course includes study and practice required for framing a simple structure. Specific topics are building materials, fasteners and adhesives, hand and power tools, reading plans & elevations, floor systems, wall and ceiling framing, roof framing and windows and exterior doors.

Total Credits   4

Total Hours   60

Pre/Corequisites

Prerequisite   CCP 100 Introductory Craft Skills

CCP 110 Floors, Walls, & Ceiling Framing

Course Standard

Course Information

Description   This course is the floor and wall framing curriculum under the National Center for Construction Education (NCCER). This course covers framing basics and the procedures for laying out and constructing a wood floor using common lumber and engineered building materials. This course also covers the procedures for laying out and framing walls, including roughing-in doors and window openings, construction corners, partition Ts, bracing walls and ceilings, and applying sheathing.

Total Credits   4

Total Hours   60

Pre/Corequisites

Prerequisite   CCP 105 Carpentry Basics

CCP 115 Roof Framing
Course Standard

Course Information

Description   This course covers the various kinds of roofs and instruction for laying out rafters for gable roof, hip roof, and valley intersections. Coverage includes both stick built and truss built roofs. This course is the curriculum for Roof Framing under the National Center for Construction Education (NCCER).

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   CCP 110 Floors, Walls & Ceiling Framing

CCP 120 Windows, Doors, & Stairs
Course Standard

Course Information

Description   This course is the curriculum for Windows, Doors, & Stairs under the National Center for Construction Education (NCCER). The course describes the various types of windows, skylights, and exterior doors, and provides instruction for installing them. It also includes instruction for installing weather-stripping and locksets. The course introduces the trainee to the various types of stairs and the common building code requirements related to stairs. The course focuses on the techniques for measuring and calculating rise, run and stairwell openings, laying out stringers, and fabricating basic stairways.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   CCP 115 Roof Framing

CCP 124 Exterior Envelope

Course Standard

Course Information

Description	This course is the curriculum for Exterior Envelopes under the National Center for Construction Education (NCCER). This course describes commercial roofing materials and structures and the procedures for installing commercial roofing, such as standing-seam, lap-seam, and built-up roofs. In addition, it provides information about the selection and installation of various types of insulating materials in walls, floors, and attics. It also covers the uses and installation practices for vapor barriers and waterproofing materials. Finally, it covers various exterior finish materials and their installation procedures, including wood, metal, vinyl, and fiber-cement siding.
Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite   CCP 120 Windows, Doors, & Stairs

CCP 125 Commercial Drawings

Course Standard

Course Information

Description	This course is the curriculum for Commercial Drawings under the National Center for Construction Education (NCCER). This course covers the types and uses of drawings prepared for commercial structures. It provides information about the format and content of commercial drawings and their use in conveying specific construction requirements. It describes the standard format for specifications.
Total Credits	2
Total Hours	30

Pre/Corequisites

Prerequisite   CCP 115 Roof Framing

CCP 128 Interior Systems

Course Standard

Course Information

Description   This course is the curriculum for Interior Systems under the National Center for Construction Education (NCCER). The course covers the various types of gypsum drywall, their uses, the fastening devices and installation methods, and detailed instructions for installing drywall on walls and ceilings using nails, drywall screws, and adhesives. It also covers the materials, tools, and methods used to finish and patch gypsum drywall. Instruction on the materials, layout, and installation procedures for many types of suspended ceilings used in commercial construction, ceiling tiles, drywall suspension systems, and pan-type ceilings, is also covered.

Total Credits   2

Total Hours   60

Pre/Corequisites

Prerequisite   CCP 120 Windows, Doors, and Stairs

CCP 130 Roofing Applications

Course Standard

Course Information

Description   This course is the curriculum for Roofing Applications under the National Center for Construction Education (NCCER). This course covers the common materials used in residential and light commercial roofing, along with the safety practices and application methods for these materials. It includes shingles, roll roofing, shakes, tiles, and metal and membrane roofs, as well as the selection and installation of roof vents.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   CCP 125 Commercial Drawing

CCP 134 Introduction to Concrete Construction

Course Standard

Course Information

Description   This course is the curriculum for Intro to Concrete Construction under the National Center for Construction Education (NCCER). This course covers the properties, characteristics, and uses of cement, aggregates, and other materials that, when

mixed, form different types of concrete. In addition, it covers the materials used in the reinforcement of concrete. It also covers the planning process that precedes the start of work on a construction site, including environmental considerations, personnel issues, access roads, traffic control, permits, site safety, utilities, and crane-related concerns. Finally, the course covers the principles of site layout and leveling and the techniques required for working in and around excavations.

Total Credits	3
Total Hours	75

CCP 135 Thermal and Moisture Protection

Course Standard

Course Information

Description   This course is the curriculum for Thermal and Moisture Protection under the National Center for Construction Education (NCCER). This course covers the selection and installation of various types of insulating materials in walls, floors, and attics. It also covers the uses and installation practices for vapor barriers and weatherproofing materials.

Total Credits	1
Total Hours	15

Pre/Corequisites

Prerequisite   CCP 130 Roofing Applications

CCP 138 Advanced Framing

Course Standard

Course Information

Description   This course is the curriculum for Advanced Framing under the National Center for Construction Education (NCCER). This course covers the skills needed to become an effective crew leader - basic leadership skills, safety, and project control. It describes the planning process that precedes the start of work on a construction site, including environmental considerations, personnel issues, access roads, traffic control, permits, site safety, utilities, and crane-related concerns. It covers the different wall systems and their installation, including wood and steel framing materials. It also covers guidelines for selecting and installing metal framing for interior and exterior walls, loadbearing and nonbearing walls, partitions, and other

applications.

Total Credits   3

Total Hours   90

Pre/Corequisites

Prerequisite   CCP 120 Windows, Doors and Stairs

CCP 140 Exterior Finishing

Course Standard

Course Information

Description   This course is the curriculum for Exterior Finishing under the National Center for Construction Education (NCCER). This course covers the various types of exterior siding used in residential construction including wood, metal, vinyl, and cement board siding, and their installation procedures.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   CCP 135 Thermal & Moisture Protection

CCP 144 Advanced Finish and Trim

Course Standard

Course Information

Description   This course is the curriculum for Advanced Finish under the National Center for Construction Education (NCCER). This course covers the different types of trim used in finish work and focuses on the proper methods for selecting, cutting, and fastening trim to provide a professional finished appearance. The course also offers extensive coverage of the materials and techniques used in finishing wood stairways and the variety of stair systems used in commercial construction.

Total Credits   3

Total Hours   75

CCP 145 Cold-Formed Steel Framing

Course Standard

Course Information

Description   This course is the curriculum for Cold-Formed Steel Framing under the National Center for Construction Education (NCCER). This course covers the types and grades of steel framing materials and includes instructions for selecting and installing metal framing for interior walls, exterior walls, and partitions.

Total Credits   1

Total Hours   15

Pre/Coreqisites

Prerequisite   CCP 140 Exterior Finishing

CCP 147 Carpentry Blue Print Reading

Course Standard

Course Information

Description   This course is designed to give students knowledge of blueprint reading as it relates to the construction industry. This course gives instruction in reading floor plans and elevation drawings, symbols and notations, scaling and dimensioning practices, materials of construction; reading blueprint, electrical and mechanical trades blueprints; reading detail drawings, plot plans and specifications; timber, steel, concrete and concrete reinforcement.

Total Credits   2

Total Hours   30

CCP 148 Vertical and Horizontal Formwork

Course Standard

Course Information

Description This course is the curriculum for Vertical and Horizontal Formwork under the National Center for Construction Education (NCCER). This course describes basic site layout tools and methods; layout and construction of deep and shallow foundations; layout and forming of slabs-on-grade; and forms used for curbing and paving. It covers the applications and construction methods for types of forming and form hardware systems for walls, columns, and stairs, as well as slip forms, climbing forms, and shaft forms. It also covers elevated decks and formwork systems and methods used in their construction.

Total Credits 3

Total Hours 60

Pre/Corequisites

Prerequisite   CCP 134 Introduction to Concrete Construction

CCP 150 Drywall Installation and Finishing

Course Standard

Course Information

Description This course is the curriculum for Drywall Installation and Finishing under the National Center for Construction Education (NCCER). This course covers the various types of gypsum drywall, their uses, and the fastening devices and methods used to install them. The materials, tools, and methods used to finish and patch gypsum drywall. It includes coverage of both automatic and manual taping and finishing methods. It also contains detailed instructions for installing drywall on walls and ceilings, using nails, drywall screws, and adhesives. It also covers fire- and sound-rated walls.

Total Credits 2

Total Hours 45

Pre/Corequisites

Prerequisite   CCP 145 Cold-Formed Steel Framing

CCP 153 Carpentry Technical Drafting

Course Standard

Course Information

Description This course includes instruction in sketching and lettering, use of drafting equipment common to the construction industry. Includes drawing geometric shapes, multi-

views, basics of isometrics, architectural elevations and floorplans to scale.

Total Credits 1

Total Hours 15

CCP 154 Finishing Concrete

Course Standard

Course Information

Description This course is the curriculum for Finishing Concrete under the National Center for Construction Education (NCCER). This course covers how tilt-up concrete construction is used, and tilt-up panels are formed, erected, and braced. It reviews the rebar installation and types of embedment used to lift and brace the panels. The methods used to achieve architectural and decorative finishes are also covered. The course also covers the tools, equipment, and procedures for handling, placing, and finishing concrete. It describes how joints are made in concrete structures, the use of joint sealants, and form removal procedures. Safety procedures for handling, placing, and finishing concrete are emphasized.

Total Credits 2

Total Hours 60

Pre/Corequisites

Prerequisite CCP 134 Introduction to Concrete Construction

CCP 155 FEMA Doors & Hardware

Course Standard

Course Information

Description This course is the curriculum for Doors and Door Hardware under the National Center for Construction Education (NCCER). This course covers the installation of metal doors and related hardware in steel-framed, wood-framed, and masonry walls, along with their related hardware, such as locksets and door closers. The course will also cover requirements for FEMA rated doors, door hardware, and installation. It also covers the installation of wooden doors, folding doors, and pocket doors.

Total Credits 1

Total Hours 15

Pre/Corequisites

Prerequisite CCP 150 Drywall Installation & Finishing

CCP 170 Suspended Ceilings

Course Standard

Course Information

Description   This course is the curriculum for Suspended Ceilings under the National Center for Construction Education (NCCER). This course covers the materials, layout, and installation procedures for many types of suspended ceilings used in commercial construction, as well as ceiling tiles, drywall suspension systems, and pan-type ceilings.

Total Credits   1

Total Hours   30

Pre/Corequisites

Prerequisite   CCP 155 Doors & Door Hardware

CCP 175 Window, Door, Floor, and Ceiling Trim

Course Standard

Course Information

Description   This course is the curriculum for Window, Door, Floor, and Ceiling Trim under the National Center for Construction Education (NCCER). This course covers the different types of trim used in finish work. It focuses on the proper methods for selecting, cutting, and fastening trim to provide a professional finished appearance.

Total Credits   2

Total Hours   60

Pre/Corequisites

Prerequisite   CCP 170 Suspended Ceilings

CCP 180 Cabinet Installation

Course Standard

Course Information

Description   This course is the curriculum for Cabinet Installation under the National Center for Construction Education (NCCER). This course covers the selection and installation of base and wall cabinets and countertops.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   CCP 175 Window, Door, Floor and Ceiling Trim

CCP 185 Carpentry Internship I

Course Standard

Course Information

Description   In this course students will have the opportunity to link classroom/ lab theory with an experimental learning opportunity. Through direct observation, reflection and evaluation, students gain an understanding of the internship site's work, mission, and customers. The student will identify how these relate to their program of study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection of their internship experience demonstrating how they have addressed specific learning goals.

Total Credits   3

Total Hours   135

Pre/Corequisites

Prerequisite   CCP 180 Cabinet Installation

CCP 187 Carpentry Internship II

Course Standard

Course Information

Description   This course is a continuation of Carpentry Internship I in which students continue their work in experiential learning. Through observation, reflection and evaluation, students gain an understanding of the internship site's work, mission, and customers. The student will identify how these relate to their program of study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection of their internship experience, demonstrating how they have addressed specific learning goals.

Total Credits   3

Total Hours   135

Pre/Corequisites

Prerequisite   CCP 180 Cabinet Installation

Prerequisite   CCP 185 Carpentry Internship I

CED 108 Word Processing

Course Standard

Course Information

Description   Emphasizes an intensive use of word processing software to create and revise business documents. Topics include: equipment and supplies maintenance and usage, work area management, word processing software, and productivity.

Total Credits   3

Total Hours   45

CED 115 Computer Applications

Course Standard

Course Information

Description   This course introduces students to the fundamental concepts and operations necessary to use computers. Emphasis is placed on basic functions and familiarity with computer use. Topics include: computer terminology, introduction to the windows environment, introduction to networking, introduction to word processing, introduction to spreadsheets, and introduction to databases.

Total Credits   3

Total Hours   45

CED 116 Advanced Word

Course Standard

Course Information

Description   Upon completion of this course students should understand the basic concepts of Word, perform character and paragraph formatting, manage text flow, create and modify tables, work with headers and footers, use illustrations and graphics, create and proof documents, create references and hyperlinks, and perform mail merges.

Total Credits 2

Total Hours 45

Pre/Corequisites

Prerequisite   CED 115 Computer Applications

CED 117 Advanced Excel

Course Standard

Course Information

Description   Upon completion of this course students should understand the basic concepts of Excel, be able to format cells, ranges, and worksheets, work with data, use basic and advanced formulas and functions, create and modify charts, insert pictures and shapes to a worksheet.

Total Credits 2

Total Hours 45

Pre/Corequisites

Prerequisite   CED 115 Computer Applications

CED 118 Advanced PowerPoint

Course Standard

Course Information

Description   Upon completion of this course students should understand the basic essentials of PowerPoint, insert and modify text on slides, add tables, graphics, and video to presentations, use transitions and animations, secure and share a presentation. Students should be able to create and present a PowerPoint presentation.

Total Credits 2

Total Hours 45

Pre/Corequisites

Prerequisite   CED 115 Computer Applications

CED 120 Advanced Computer Applications

Course Standard

Course Information

Description   This course enhances computer literacy and meets the needs of students in associate degree and/or certificate programs. The students will learn from hands-on experiences, advanced skills in word processing, spreadsheet applications, and graphical presentations in the Windows environment.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CED 115 Computer Applications

CFT 101 Introduction to Composites

Course Standard

Course Information

Description   This course provides students with the fundamentals of composite theory in an interactive on line environment. Students then apply the concepts to industry based projects in a 3D interactive online environment and a world class composite laboratory. Topics include the materials, equipment, processes, components and design of polymer composite structures.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   AVC 110 OSHA/Safety

Prerequisite   MTH 020 Math Fundamentals

Prerequisite   AVC 102 Precision Instruments

CFT 106 Composite Finish Trim

Course Standard

Course Information

Description   This course provides students with an understanding of the processes and

procedures use to finish trim composites parts. Topics include safety, documentation, tools, procedures and inspection.

Total Credits	2
Total Hours	45

Pre/Corequisites

Prerequisite	CFT 101 Introduction to Composites
Prerequisite	CFT 130 Composite Fabrication Methods/Application
Prerequisite	AVC 110 Safety/OSHA 10 AY 2014-15

CFT 107 Composite Assembly

Course Standard

Course Information

Description   Composite Assembly teaches the fundamentals of joining composite structures. Adhesive bonding as well as mechanical fasteners are covered. Safe procedures are emphasized. Hole preparation for mechanical fasteners and surface preparation for adhesive bondings are essential elements of this course. The course consists of theory and practical application through hands on projects.

Total Credits	2
Total Hours	45

Pre/Corequisites

Prerequisite	CFT 106 Composite Finish Trim

CFT 112 Composite Assembly I

Course Standard

Course Information

Description   Composite Assembly teaches the fundamentals of joining composite structures. Adhesive bonding as well as mechanical fasteners are covered. Safe procedures are emphasized. Hole preparation for mechanical fasteners and surface preparation for adhesive bondings are essential elements of this course. The course consists of theory and practical application through hands on projects.

Total Credits	1
Total Hours	30

CFT 113 Composite Assembly II

Course Standard

Course Information

Description   Composite Assembly II continues the topics learned in Composite Assembly I. In this course students will focus on the skills and techniques associated with non structural bonding. Safe procedures are emphasized. The course consists of theory and practical application through hands on projects.

Total Credits   1

Total Hours   30

Pre/Corequisites

Prerequisite   CFT 112 Composite Assembly I

CFT 130 Composite Fabrication Methods /Applications

Course Standard

Course Information

Description   Fundamentals of composite structure fabrication methods and applications will be covered including, hand lay-up, bonding, vacuum bagging and resin transfer molding. Emphasis will also be placed on composites safety and inspection/testing of composite components.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   AVC 112 Blue Print Reading AY 2014-15

Prerequisite   CFT 101 Introduction to Composites

CFT 135 Overview of Composite Inspection

Course Standard

Course Information

Description   This course is designed to provide students with an understanding of the inspection process during repair procedures. Students will learn the role of repair technicians in the inspection process. Emphasis will be placed on the importance of documentation in the inspection of repair. This course is an online course and utilizes interactive online content.

Total Credits   1

Total Hours   15

CFT 140 Composite Inspection

Course Standard

Course Information

Description   This course is designed to provide students with an understanding of the inspection process during repair procedures. Students will learn the role of repair technicians in the inspection process while obtaining hands on experience in basic NDI testing techniques. Emphasis will be placed on the importance of documentation in the inspection of repair. This course utilizes online, classroom and laboratory learning environments.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   AVC 112 Blueprint Reading

Prerequisite   AVC 110 Safety/OSHA 10

Prerequisite   CFT 101 Introduction to Composites

Prerequisite   CFT 106 Composites Finish Trim

Prerequisite   CFT 107 Composite Assembly

Prerequisite   CFT 130 Composite Fabrication Methods/Application

CFT 141 Disassemble & Damage Removal Techniques

Course Standard

Course Information

Description   This course provides student with the knowledge required to safely and effectively prepare a part for repair. In the lab setting students will learn to effectively remove finish, disassemble and remove damage composite material. Special attention will be paid to developing the student's tactile skills in all these areas. Theory in this course is taught using an interactive on line environment.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite	AVC 110 Safety/OSHA 10
Corequisite	CFT 140 Compoosite Inspection
Prerequisite	AVC 112 Blueprint Reading
Prerequisite	CFT 101 Introduction to Composites
Prerequisite	CFT 106 Composite Finish Trim
Prerequisite	CFT 107 Composite Assembly
Prerequisite	CFT 130 Composite Fabricatino Methods/Applications

CFT 142 Composite Repair

Course Standard

Course Information

Description   This course is designed to provide students with the knowledge and techniques used for structural repair of aircraft made with composite materials. Students will complete multiple industry based projects designed to challenge their skills with both wet layup and pre preg materials.

Total Credits   4

Total Hours   120

Pre/Corequisites

Prerequisite	CFT 141 Disassembly and Damage Removal Techniques

CFT 143 Complex Composite Repairs

Course Standard

Course Information

Description   This course is designed to provide the student with hands on experience working with non- structural composite repairs. Instruction will include learning to solve problems presented in non- production atmospheres in relation to composite repairs. Students will also review case studies and problem solving models.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   CFT 144 Electrical Bonding Repair

CFT 144 Electrical Bonding Repair

Course Standard

Course Information

Description   This course will provide students with the knowledge and skills used in electrical bonding composite repair. Students will learn both theory and application using secondary bonding techniques.

Total Credits   1

Total Hours   30

Pre/Corequisites

Prerequisite   CFT 142 Composite Repair

CHM 110 General Chemistry

Course Standard

Course Information

Description   An introduction to chemistry that includes the study of matter, atoms, molecules, chemical arithmetic, chemical reactions, gas laws, acids and bases, organic chemistry and laboratory experimentation.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   MTH 020 Math Fundamentals

CHM 125 Chemistry I

Course Standard

Course Information

Description	An introduction to inorganic chemistry with emphasis on atomic structure, molecular bonding and structure, the periodic table, kinetic theory, changes of state, solutions and concentrations, chemical reactions and oxidation-reduction and fundamental organic chemistry. Includes laboratory experimentation.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   CHM 110 General Chemistry

Prerequisite   MTH 101 Intermediate Algebra

Corequisite   MTH 112 College Algebra

CHM 135 Chemistry II

Course Standard

Course Information

Description	A continuation of CHM 125 Chemistry I. A presentation of the properties of solutions, chemical kinetics, equilibrium, acid-base theory, thermodynamics, coordination chemistry, organic and biochemistry and electrochemistry. Includes laboratory experimentation.

Total Credits   5

Total Hours   105

CLD 118 Cloud Fundamentals

Course Standard

Course Information

Description	This course covers cloud services from a business perspective. This includes the business value of cloud computing, cloud types, steps to a successful adoption of the cloud, impact and changes on IT service management, as well as risks and consequences.

Total Credits   3

Total Hours   45

CLD 121 Object-Oriented Programming (JavaScript)

Course Standard

Course Information

Description   JavaScript is a scripting language of the web. As the web evolves from a static to a dynamic environment, technology focus is shifting from static markup and styling—frequently handled by content management systems or automated scripts—to dynamic interfaces and advanced interaction. Once seen as optional, JavaScript is now becoming an integral part of the web, infusing every layer with its script. Object-Oriented Programming (OOP) refers to using self-contained pieces of code to develop applications. IT professionals call these self-contained pieces of code objects, better known as Classes in most OOP programming languages and Functions in JavaScript. IT professionals use objects as building blocks for our applications. Building applications with objects allows us to adopt some valuable techniques. In this course students will build their understanding of JavaScript piece by piece, from core principles like variables, data types, conditionals, and functions through advanced topics including loops, closures, DOM printing, and learn Inheritance and Encapsulation since only these two concepts apply to OOP in JavaScript; in JavaScript objects can encapsulate functionalities and inherit methods and properties from other objects.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 129 Programming Foundations (Swift iOS)

CLD 122 Introduction to Web Development

Course Standard

Course Information

Description   This course introduces students to basic web design using HTML (Hypertext Markup Language), CSS (Cascading Style Sheets), JavaScript, and PHP. Throughout the course students are introduced to planning and designing effective websites; implementing web pages by writing code; producing a functional, multi-page website; and navigating how to choose and set up a server to host their sites on. The course does not require any prior knowledge of coding or web design.

Total Credits 3

Total Hours 75

CLD 123 DevNet I

Course Standard

Course Information

Description The DevNet I course introduces the methodologies and tools of modern software development, applied to the IT and Network operations. It covers a 360 view of the domain including microservices, testing, containers, and DevOps, as well as securely automating infrastructures with Application Programming Interfaces (APIs). Students completing this course, gain practical, relevant, hands-on lab experience, including programming in Python, using GIT and common data formats (JSON, XML and YAML), deploying applications as containers, using Continuous Integration/Continuous Deployment (CI/CD) pipelines and automating infrastructure using code.

Total Credits 3

Total Hours 60

CLD 126 Test Driven Development (JavaScript)

Course Standard

Course Information

Description Programmers shouldn't have to guess whether the software is working correctly. They should be able to prove it, every step of the way. A formal test-driven development (TDD) process allows programmers to build testing into their daily routine. They can run tests many times a day, getting instant feedback on the quality of the code. This course explains how to adopt a TDD mindset and process—vital skills for all modern software developers. Find out what makes a good test, why programmers should be more interested in failure than success, and how to measure and repeatedly run tests. Together students will explore the jargon: test suites, test harnesses, mock and stub objects, and more, how TDD is used in the most common programming languages, TDD environments, and what tools/frameworks exist to help programmers succeed.

Total Credits 3

Total Hours 45

CLD 129 Programming Foundations (Swift iOS)

Course Standard

Course Information

Description   Programming Foundations (Swift iOS) will introduce students to the basics of programming and app development using Apple's native language, Swift. This course will provide students with a solid foundation in programming fundamentals that can be carried over into other Object Oriented Programming (OOP) languages such as Python, C#, and JavaScript.

Total Credits   3
Total Hours   60

CLD 131 Continuous Integration Continuous Deployment - CICD

Course Standard

Course Information

Description   Continuous delivery (CD) answers two difficult questions: "How do we release software more quickly in response to user demand?" and "How do we release high-quality software reliably?" Using special practices and tools, teams can address both concerns. In this course, learn about continuous integration and continuous delivery (CI/CD), and see how these concepts work in practice by constructing your own build pipeline. Throughout the course, students will discuss elements of the pipeline as they show how to take an app written in the Go programming language from development to production. Students will walk through version control, building artifacts, unit testing, and deployment, demonstrating common practices and tools along the way.

Total Credits   3
Total Hours   45

Pre/Corequisites

Prerequisite   CLD 121 Object-Oriented Programming (JavaScript) Or
Prerequisite   CLD 138 Object- Oriented Programming (Python)

CLD 137 C# Programming Language

Course Standard

Course Information

Description   C# is one of the most widely used general-purpose programming languages. As a result, C# is often developers' primary choice for creating a wide range of desktop, cloud, and mobile applications. This course will take students through C# from the ground up in a step-by-step manner. By the end of this course, students will be well versed with the essentials of C# language and be ready to start creating apps with it.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite

>   CLD 129 Programming Foundations (Swift iOS)

CLD 138 Object-Oriented Programming (Python)

Course Standard

Course Information

Description   Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity, object oriented application, and code reuse. Object Oriented Programming (OOP) refers to using self-contained pieces of code to develop applications. IT Professionals call these self-contained pieces of code objects, better known as Classes in Python. IT Professionals use objects as building blocks for scripting and applications which allows us to adopt some valuable techniques. In this course students will build their understanding of Python piece by piece starting with the basics and work into algorithms, standard libraries, GUI development, and generators. At the end of this course students will be fully proficient in python having covered advanced python development as well as parallel and concurrent programming.

Total Credits   3

Total Hours   45

CLD 141 Test Driven Development (Python)

Course Standard

Course Information

Description   Programmers shouldn't have to guess whether software is working correctly. They should be able to prove it, every step of the way. A formal test-driven development (TDD) process allows programmers to build testing into their daily routine. Programmers can run tests many times a day, getting instant feedback on the quality of their code. This course explains how to adopt a TDD mindset and process—vital skills for all modern software developers. Find out what makes a good test, why programmers should be more interested in failure than success, and how to measure and repeatedly run tests. In this course students will get an overview of both unit testing and TDD, why both are crucial for developers, how to set up a development environment for TDD, and go into detail with the pytest unit-testing framework. In addition too, students will learn best practices and develop test cases in order to master TDD in Python.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 138 Object Oriented Programming (Python)

CLD 143 Web Application Development I (HTML/CSS)

Course Standard

Course Information

Description   CSS is a stylesheet language that allows you to control the appearance of your webpages, and HTML is the programming language that powers the web. Like any language, once you master it, you can begin to create your own content, whether that's simple websites or complex web applications. In this hands-on course, we will take an in-depth look at the syntax of HTML and best practices for writing with CSS and JavaScript to create rich, engaging user experiences. Plus, at the end of the course, you'll walk away with an actual project—an online résumé page.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 126 Test-Driven Development (JavaScript) OR

CLD 147 Website Production & Management (Word Press)

Course Standard

Course Information

Description   This course is designed to teach students the necessary skills to build, customize, manage and promote a business website using the content management system WordPress. In this project-based course, students will apply classroom knowledge and skills to successfully launch a site on a live web server.

Total Credits   3

Total Hours   60

CLD 152 Web Application Development II (REACT)

Course Standard

Course Information

Description   React is a JavaScript library for building user interfaces to fetch rapidly changing data that needs to be recorded and is maintained by Facebook for the development of single-page or mobile applications. The effectiveness of React.js stands out. It relies on reusable components, not templates, for UI development, allowing developers to render views where data changes over time. React applications are more scalable, maintainable, and makes developers more efficient. In this hands-on course, you will learn React.js and grow your skills through several browser-based projects leading to the completion of several web applications.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 143 Web Application Development I (HTML/CSS)

CLD 153 Multi-Cloud Administration

Course Standard

Course Information

Description   Cloud administrators must have an understanding of cloud services and architecture, as well as the top cloud platforms and tools. In this hands-on course, students will explore the top cloud platforms, AWS, Azure, and Google Cloud, as well as best practices in cloud security, operations, and services in order to obtain the skills needed to become a successful multi-cloud administrator.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 118 Cloud Fundamentals

CLD 156 Advanced Web Development (PHP)

Course Standard

Course Information

Description   This course is designed to provide students with advanced skills in the area of Web Development. In this hands on class students will have the opportunity to apply HTLM5, CSS3, and jQuery with PHP concepts to lab projects. Topics will include PHP programming , basic database functionality, and building dynamic applications.

Total Credits   3

Total Hours   60

CLD 158 Multi-Cloud Development Services

Course Standard

Course Information

Description   Cloud computing impacts all careers, and an awareness of the opportunities associated with this emerging field is critical. Developers need to understand what it means to develop on and migrate to the cloud—and comprehend the overall landscape before diving into the platform. In this hands-on course, you will get a high-level overview just for developers, focusing on the features and services in a multi-cloud development environment using Google Cloud, Amazon Web Services, and Microsoft Azure.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 118 Cloud Fundamentals

Prerequisite   CLD 121 Object- Oriented Programming(JavaScript) or

Prerequisite   CLD 138 Object-Oriented Programming(Python)

CLD 166 Cloud Application Development I (REACT on AWS)

Course Standard

Course Information

Description   Traditionally, companies have built and deployed web applications where they have some degree of control typically running on a server and are responsible for provisioning and managing the resources for it. The issues associated with this process, including server uptime, maintenance costs, managing security, and scalability is driving the realization that it is more competitive to run applications on the cloud. In this hands-on course, designed for developers that would like to build full-stack applications on Amazon Web Services, students will make a full-stack React application by creating a note-taking app from scratch. By guiding students, step-by-step through both the frontend and the backend, students will cover all the different aspects of building their first full-stack React app on the cloud.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 152 Web Application Development - II

Prerequisite   CLD 118 Cloud Fundamentals

CLD 168 AWS Cloud Practitioner

Course Standard

Course Information

Description	To date, when it comes to market share Amazon Web Services currently holds 47.8%, followed by Microsoft Azure at 15.5%, Alibaba Cloud at 7.7%, Google at 4%, and IMB at 1.8%. Get up to speed with one of the most popular and powerful cloud solutions on the market—Amazon Web Services (AWS). In this hands-on course, students will deepen their understanding of Amazon Web Services (AWS) through enterprise security, high availability, controlling cost, and preparing an AWS solution.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	CLD 153 Multi-Cloud Administration Or
Prerequisite	CLD 118 Cloud Fundamentals

CLD 169 Machine Learning and AI Foundations with Predictive Analytics

Course Standard

Course Information

Description	There is a lot to learn to stay on top of a rapidly expanding universe of AI and machine learning. In addition, predictive analytics is one of the richest disciplines within the realm of data science; together artificial intelligence, machine learning, and predictive analytics form a very lucrative skillset for an ever-increasing competitive market. In this hands-on course, students will be exposed to a healthy range of topics to learn and advance their skillset in AI, ML, and data science. In addition too, students will learn the tools and techniques for using data to predict future outcomes in order to get up to date with the latest advancements.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	CLD 138 Object-Oriented Programming (Python)

CLD 170 Cloud Application Development II (Serverless REACT on AWS)

Course Standard

Course Information

Description   Traditionally companies have built and deployed web applications where they have some degree of control typically running on a server and are responsible for provisioning and managing the resources for it. There are a few issues with this be it server uptime, maintenance costs, managing security, and scalability. It is far more competitive now to run applications on the cloud. Serverless computing (or serverless for short), is an execution model where the cloud provider (AWS, Azure, or Google Cloud) is responsible for executing a piece of code by dynamically allocating the resources. And only charging for the amount of resources used to run the code. The code that is sent to the cloud provider for execution is usually in the form of a function. Hence serverless is sometimes referred to as "Functions as a Service" or "FaaS". This hands-on course is meant for developers that would like to build full-stack serverless applications. By guiding students step-by-step through both the frontend and the backend they will cover all the different aspects of building their first full automated full-stack serverless React app on the cloud.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 166 Cloud Application Development I

CLD 175 Information Technology Internship

Course Standard

Course Information

Description   In this course, students will have the opportunity to link classroom/lab theory with an experimental learning opportunity. Through direct observation, reflection and evaluation, students gain an understanding of the internship site's work, mission, and customers, how these relate to their program of study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.

Total Credits   3

Total Hours   135

CLD 177 AWS Solutions Architect Associate

Course Standard

Course Information

Description   AWS certification is one of the most in-demand in the market, as it allows students to demonstrate proficiency in working with AWS cloud services. This hands-on course provides IT professionals who have an existing foundational knowledge of the AWS platform to learn the skills they need to prepare for the AWS Certified Solutions Architect (Associate) exam. By completing this course students will be thoroughly prepared to lock down their AWS skills for the AWS Certified Solutions Architect – Associate (SAA-C01) exam.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 168 AWS Cloud Practitioner

CLD 182 Microsoft Azure Administrator

Course Standard

Course Information

Description   Microsoft Azure is one of the leading enterprise-grade cloud computing platforms. In this hands-on course, students will be introduced to cloud computing focusing on various Azure technologies designed to support and protect companies at scale. As a more efficient alternative to traditional on-premise IT infrastructure, through this course, students will learn how to build a base of operations with Azure resource groups, configure networking, provision storage, manage active directory, implement security, govern identity and access management, and much more.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 153 Multi-Cloud Administration

CLD 185 Virtual Private Cloud Administration

Course Standard

Course Information

Description   Most leading private clouds provide similar features. So, how can IT professionals select the right solution with intent to scale for an organization? Through this hands-

on course, students will examine industry-leading private cloud platforms and compare the services offered. Learn the fundamentals of cloud computing using a private cloud, consider reasons why you might choose a private cloud solution for a business, and discover the features and services offered by several providers—from security to integration and compatibility features.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite   CLD 153 Multi-Cloud Administration

CLD 187 Cloud Native Infrastructure (Kubernetes)

Course Standard

Course Information

Description   Container technology caught the public's attention with the introduction of Docker in 2013. The efficiency and cost benefits containerization can offer quickly made it one of the hottest topics in cloud computing. Shortly after Dockers' release, there has been a flood of new container management platforms, aiming to reduce the complexity of managing containerized applications. One of these platforms, the open-source project Kubernetes created by Google in 2015, is by now the de facto standard for container management. In this hands-on course, students will learn the ins and outs of Kubernetes, how it automates deploying, scaling and managing containerized applications on a group (cluster) of (bare metal or virtual) servers.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite   CLD 153 Multi-Cloud Administration

CLD 188 Cloud Data and DevOps Specialist (AWS)

Course Standard

Course Information

Description   Amazon Web Services (AWS) is one of the most widely used cloud platforms and the go-to for many organizations looking to reduce costs by adopting a cloud infrastructure strategy. In this hands-on course, students will gain a comprehensive, cohesive skill for data admins, engineers, and DevOps specialists who will use AWS

with data science and business analytics teams. Topics include cloud concepts, best practices, resilient infrastructure, elasticity, automation, cost optimization, server-based architectures, data science, metrics, and much more.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 118 Cloud Fundamentals

CLD 191 Microsoft Enterprise O365 Administration
Course Standard

Course Information

Description   Microsoft 365 offers enterprises a complete business solution around cloud-based office services, applications, Windows 10, and mobility and security services. In this hands-on course, students will dive into each Microsoft 365 product, providing IT professionals with the guidance they need to successfully implement and manage solutions for the modern workplace.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   CLD 153 Multi-Cloud Administration

CLD 193 Cloud DevOps Engineer I

Course Standard

Course Information

Description	DevOps is not a framework or a workflow. It's a culture that is overtaking the business world. DevOps ensures collaboration and communication between software engineers (Dev) and IT operations (Ops). With DevOps, changes make it to production faster, resources are easier to share, and large-scale systems are easier to manage and maintain. In this part-one course, students will learn a holistic overview of the DevOps movement, focusing on the core value of CAMS (culture, automation, measurement, and sharing) in addition to both agile and lean project management principles and how old-school principles like ITIL, ITSM, and SDLC fit within DevOps.
Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	CLD 168 AWS Cloud Practitioner
Prerequisite	CLD 188 Cloud Data and DevOps Specialist (AWS)

CLD 196 Cloud DevOps Engineer II

Course Standard

Course Information

Description	DevOps is not a framework or a workflow. It's a culture that is overtaking the business world. DevOps ensures collaboration and communication between software engineers (Dev) and IT operations (Ops). With DevOps, changes make it to production faster, resources are easier to share, and large-scale systems are easier to manage and maintain. In this part-two course, students will learn the various methodologies and tools an organization can adopt to transition into DevOps, including infrastructure automation, software version control, container management via Kubernetes, and much more.
Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	CLD 193 Cloud DevOps Engineer I

CNU 010 Certified Nurse Aide Update

Course Standard

Course Information

Description   This course is for students who originally certified as a Nursing Assistant in the State of Kansas and have not worked in a Health Care Setting for two or more years. This class will prepare students to return to the Health Care Setting under the direct supervision of a licensed nurse as a Certified Nurse Assistant.

Total Credits   1
Total Hours   12

Pre/Corequisites

Prerequisite   GRA 101 Certified Nurse Aide

CPR 001 CPR for Healthcare Providers

Course Standard

Course Information

Description   Designed for practitioners whose primary work environment is in a clinical setting or those providing direct patient care. This is the most comprehensive credential, and it is often a prerequisite for advanced training courses. Suggested participants include: physicians, dentists, nurses, paramedics, EMTs, respiratory therapists, pharmacists, medical or nursing assistants and other allied health professionals.

Total Credits   1
Total Hours   15

CWG 103 Blue Print Reading for Welders

Course Standard

Course Information

Description   Blue Print Reading for Welders gives instruction in the universal language of drawing interpretation from which information is conveyed for the manufacture of parts and assemblies. Students will fabricate a total of 4-5 projects from shop drawings. Welding symbols and abbreviations for well- meant fabrications: fillet welds, groove welds, back or backing and melt thru welds, plug and slot welds, surfacing welds, edge welds, spot welds, projection welds, seam welds, stud welds.

Total Credits   2

Total Hours 45

Pre/Corequisites

Prerequisite CWG 105 Welding Safety & Orientation

CWG 105 Welding Safety & Orientation

Course Standard

Course Information

Description The primary purpose of this course is to introduce and familiarize new students with the use and safety precautions to consider when using welding related equipment. The equipment in WSU Tech's welding lab compares to what is currently used by Industry. This course will enable a person who has never before used the equipment to set up and use it in an appropriate manner at an entry level and, doing so, meet safety standards. A separate safety exam will be given at the end of demonstrating the use and hazards it presents. Before students can use any piece of equipment on their own, they have to attain a score of 100% on the safety exam. Equipment in the lab that is excluded from the safety training may only be used under direct supervision of an instructor who is within an arm's length away.

Total Credits 1

Total Hours 15

CWG 110 Welding Applications

Course Standard

Course Information

Description In this course student will learn the basic elements of SMAW, GMAW and GTAW. Additionally, students learn the equipment, processes and skills associated with welding cutting equipment.

Total Credits 4

Total Hours 105

Pre/Corequisites

Prerequisite CWG 105 Welding Safety & Orientation

CWG 115 SMAW

Course Standard

Course Information

Description   Through classroom and/or lab/shop learning and assessment activities, students in this course will: describe the Shielded Metal Arc Welding process (SMAW); demonstrate the safe and correct set up of the SMAW workstation; associate SMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; demonstrate a surfacing weld with selected electrodes in the flat and horizontal positions; perform SMAW welds on selected weld joints; and perform visual inspection of welds.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   CWG 105 Welding Safety & Orientation

CWG 116 SMAW II

Course Standard

Course Information

Description   This course is designed to give students learning opportunities in the form of assessments and activities in the classroom, lab and/or shop. Students in this course will: describe the Shielded Metal Arc Welding process (SMAW); demonstrate the safe and correct set up of the (SMAW) workstation; associate (SMAW) electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; build t-joint and lap weld beads with selected electrodes in the flat position; build t-joint and lap weld beads with selected electrodes in the horizontal position; perform basic (SMAW) welds on selected metal thicknesses; and perform visual inspection of said welds. Student will also start out of position welds in the vertical (3) and overhead (4) positions. Including but not limited to fillet and groove welds.

Total Credits   4

Total Hours   105

Pre/Corequisites

Prerequisite   CWG 115 SMAW

CWG 120 GMAW

Course Standard

Course Information

Description   Through classroom and/or shop/lab learning and assessment activities, students in this course will: explain gas metal arc welding process (GMAW); demonstrate the safe and correct set up of the GMAW workstation; correlate GMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; perform surfacing welds with selected electrodes in the flat position; perform surfacing welds with selected electrodes in the horizontal position; produce basic GMAW welds on selected weld joints; and conduct visual inspection of GMAW welds.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   CWG 105 Welding Safety & Orientation

Prerequisite   AVC 110 Safety/OSHA 10

CWG 121 GMAW II

Course Standard

Course Information

Description   Through classroom and/or shop/lab learning and assessment activities, students in this course will: explain gas metal arc welding process (GMAW); demonstrate the safe and correct set up of the GMAW work station. Correlate GMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses. Build t-joint and lap-joint with selected electrodes in the flat position; build t-joint and lap-joint with selected electrodes in the horizontal position; perform basic GMAW welds. Student will perform welds in the vertical (3) and overhead (4) positions; this will include, but not limit to, fillet welds and groove welds.

Total Credits   4

Total Hours   105

Pre/Corequisites

Prerequisite   CWG 120 GMAW

CWG 125 GTAW

Course Standard

Course Information

Description Through classroom and/or lab/shop learning and assessment activities, students in this course will: explain the gas tungsten arc welding process (GTAW); demonstrate the safe and correct set up of the GTAW workstation; relate GTAW electrode and filler metal classifications with base metals and joint criteria; build proper tungsten electrode and filler metal selection and use based on metal types and thicknesses; perform surfacing welds with selected tungsten electrodes and filler material in the flat position; perform surfacing welds with selected tungsten electrodes and filler material in the horizontal position; perform basic GTAW welds on selected weld joints; and perform visual inspection of GTAW welds.

Total Credits 3
Total Hours 75

Pre/Corequisites

Prerequisite   CWG 105 Welding Safety & Orientation

CWG 126 GTAW II

Course Standard

Course Information

Description Through classroom and/or shop/lab learning and assessment activities, students in this course will: explain the gas tungsten arc welding process (GTAW); demonstrate the safe and correct set up of the (GTAW) work station; correlate (GTAW) electrode and fill metals classifications with base metals and joint criteria; demonstrate proper tungsten electrode and filler metal selection used based on metal types and thicknesses. Students will build t-joint and lap-joints with selected electrodes and filler metal in the flat position; build t-joint and lap-joints with selected tungsten electrodes and filler metal in the horizontal position; perform basic (GTAW) welds. Students will perform welds in the vertical (3) and overhead (4) positions; this will include but not be limited to fillet welds and groove welds. Students will also be introduced to aluminum and stainless steel.

Total Credits 4
Total Hours 105

Pre/Corequisites

Prerequisite   CWG 125 GTAW

CWG 130 Robotic Welding

Course Standard

Course Information

Description   This course is designed to give students learning Robotic Welding opportunities in the form of assessments and activities in the classroom, lab and/or shop. Topics in the course will include robot axes, programing, backups and protection, safety, and maintenance of the welding and robot equipment.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   CWG 110 Welding Applications

CWG 141 Oxy Acetylene Welding & Cutting

Course Standard

Course Information

Description   The Oxy-Acetylene Welding and Cutting Course is designed to introduce students to the competencies required to safely and successfully demonstrate oxy-acetylene techniques in the classroom, lab and shop setting.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   CWG 105 Welding Safety and Orientation

Prerequisite   AVC 110 Safety/OSHA 10

CWG 145 Fabrication & Design

Course Standard

Course Information

Description   This course is designed to provide students with the opportunity to apply fabrication and design principles in various WATC campus related and student projects.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   CWG 103 Blue Print Reading for Welders

Prerequisite   CWG 121 GMAW II

Prerequisite   CWG 116 SMAW II

Prerequisite   CWG 149 Materials & Testing

CWG 149 Materials & Testing

Course Standard

Course Information

Description   Provides knowledge and skills in the areas of metallurgy and weld testing. Teaches the different uses and testing procedures for steel, stainless steel, aluminum and various alloys. Emphasizes welds approved for testing by the American Welding Society.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   CWG 105 Welding Safety & Orientation

CWG 155 Flux Cored Arc Welding

Course Standard

Course Information

Description   Through classroom and/or shop/lab learning and assessment activities, students in this course will: explain Flux Cored Arc Welding process (FCAW); demonstrate the safe and correct set up of the FCAW workstation; correlate FCAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; perform surfacing welds

with selected electrodes in the flat position; perform surfacing welds with selected electrodes in the horizontal position; produce basic FCAW welds on selected weld joints; and conduct visual inspection of FCAW welds.

Total Credits	4
Total Hours	105

Pre/Corequisites

Prerequisite   CWG 121 GMAW II

CWG 160 Welding Internship
Course Standard

Course Information

Description   The internship represents an educational strategy linking the classroom with the acquisition of knowledge in the workplace. Through direct observation, reflection and evaluation, students gain an insight into the internship site's work, mission, and audience, how these relate to their academic study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.

Total Credits	4
Total Hours	180

CWG 242 SMAW D1.1 Qualification
Course Standard

Course Information

Description   Assists students in preparing to take the shielded metal arc welding (SMAW) qualification test. Students follow all safety procedures related to the various tools and equipment involved in this course. They understand the qualification and code system for structural qualification; identify, measure, cut and prepare the material required for this qualification; and learn the skills for structural welding. Students have time in class to practice these skills in preparation for the structural certification test(s). Completion of this course does not ensure qualification. A destructive bend test is performed during the last week of this course.

Total Credits	4

Total Hours 120

Pre/Corequisites

Prerequisite CWG 116 SMAW II

CWG 243 GMAW D1.1 Qualification

Course Standard

Course Information

Description Assists students in preparing to take the gas metal arc welding (GMAW) qualification test. Students follow all safety procedures related to the various tools and equipment involved in this course; understand the qualification and code system for structural qualification; identify, measure, cut and prepare materials required for this qualification; and learn the skills for structural welding. Students have time in class to practice these skills in preparation for the structural qualification test(s). Completion of this course does not ensure qualification. A destructive bend test is performed during the last week of this course.

Total Credits 4

Total Hours 120

Pre/Corequisites

Prerequisite CWG 121 GMAW II

ENG 010 College Reading Skills

Course Standard

Course Information

Description   This course is designed to equip students for success in the writing required during academic endeavors. Review of grammar is individualized and self-paced, using a computerized software program. Writing assignments will include a number of paragraphs and major essay. This course does not count toward the A.A., A.S., A.A.S., or A.G. S. degree.

Total Credits   3

Total Hours   45

ENG 020 Basic Writing Skills

Course Standard

Course Information

Description   Enables students to construct complete simple, compound and complex sentences by applying grammar concepts learned. Enables students to write a focused, organized, supported paragraph without fragment, run-on or comma splice errors This course does not count toward the Certificate of Completion (COC), Technical Certificate (TC), or Associate of Applied Science degree (AAS).

Total Credits   3

Total Hours   45

ENG 030 English

Course Standard

Course Information

Description   Designed to equip students for success in the writing required during academic endeavors. Review of grammar is individualized and self-paced, using a computerized software program. Writing assignments will include a number of paragraphs and major essay. To demonstrate readiness for and be allowed to enroll in ENG 101 Composition I, students must pass this course with a grade of C or above and pass the final exam. This course does not count toward AS, AA, AGS or AAS degrees.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   EBS 103 Basic Paragraph Writing

ENG 035 PACER English
Course Standard

Course Information

Description	This course is designed to equip students for success in the writing, reading, and effective student skills required during academic endeavors at the college level. Review of grammar and reading skills is individualized and self-paced, using a computerized software program in addition to instructor-led lessons. Writing assignments will include a number of paragraphs and reading will include practice with college-level texts.

Total Credits   5

Total Hours   75

ENG 040 Bridge to College English
Course Standard

Course Information

Description	Bridge to College English is for students testing in the 46-68 range on the Accuplacer reading and/or sentence skills tests. Upon successful completion of this intensive writing program, students will enroll in ENG 101 Composition I. This two-week course offers a refresher on essential reading and writing skills that students are expected to have mastered before entering ENG 101 Composition I.

Total Credits   1

Total Hours   15

ENG 100 Composition I Lab
Course Standard

Course Information

Description	This lab is designed for students to work in an adaptive setting based on their skills

and needs in reading and writing skills. Students will take this lab in conjunction with English 101 Composition I.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   ENG 035 Pacer English

Corequisite   ENG 101 Composition I

ENG 101 Composition I

Course Standard

Course Information

Description   This course is designed to improve the reading and writing skills of students. The emphasis is on fundamental principles of written English in structurally correct sentences, paragraphs and expository themes. Critical analysis of essays will be used to aid in developing the student's thinking, support of thesis and style. Students are introduced to the basic components of research by writing a documented essay in Modern Language Association (MLA) style.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   ENG 030 English

ENG 110 Introduction to Literature

Course Standard

Course Information

Description   This course is an introduction to the short forms of literature, designed to develop understanding and appreciation of good literature. Study includes short stories, dramas and poems.

Total Credits   3

Total Hours   45

Pre/Corequisites

ENG 120 Composition II

Course Standard

Course Information

Description   This course is designed to immerse students in the study and practice of persuasive and argumentative, report, and research writing emphasizing analysis and research and reading, interpreting, and evaluation of selected texts.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   ENG 101 Composition I

ENG 205 Introduction to Creative Writing

Course Standard

Course Information

Description   In this course students will combine the writing and revising of original works with the critical readings of published works from poetry, fiction, and play/film writing. Students will learn the basic elements of writing in each selected genre and experiment with producing their own works in those genres. During class students will share their work and provide feedback to classmates. Additionally, class time will include open discussion about the craft of writing and the assigned readings.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   ENG 120 Composition II

ENG 211 Introduction to Writing for Digital Media

Course Standard

Course Information

Description In this course, students will explore the writing genres associated with digital media and learn the essential elements of writing for a digital audience. Students will actively participate in the writing process while creating original work in multiple digital media environments. Students are expected to share original works and provide feedback to classmates. Additionally, class time will include the open discussion of writing for the digital audience and assigned readings.

Total Credits 3

Total Hours 45

Pre/Corequisites

Prerequisite   ENG 120 Composition II

FSI 101 King Air Maintenance Practical

Course Standard

Course Information

Description This course is designed to provide Maintenance Technicians hands on training with the King Air 90 Series aircraft as defined by the applicable Practical Task Assessment Log (PTAL).

Total Credits 3

Total Hours 90

DAS 113 Dental Materials I

Course Standard

Course Information

Description Covers identification of materials used in general dentistry; physical and chemical properties, functions and classifications. Includes principles of safety and aseptic technique involved in working with materials and equipment. Laboratory practice with impression materials, gypsum products, dental cements, waxes, resins and restorative materials.

Total Credits 4

Total Hours 90

Pre/Corequisites

Corequisite	DAS 114 Dental Radiology I
Prerequisite	DAS 119 Dental Anatomy
Corequisite	DAS 120 Dental Science
Corequisite	DAS 122 Chairside Assisting I
Prerequisite	DAS 116 Introduction to General Anatomy and Physiology
Prerequisite	DAS 149 Infection Control for Dental Practice

DAS 114 Dental Radiology I

Course Standard

Course Information

Description	Fundamental concepts to acquire and utilize diagnostic intraoral radiographic equipment, radiographic characteristics and anatomy, mounting of radiographs, radiographic processing, safety relating and legal issues relating to dental radiographs. Course includes certification in the use of the NOMAD PRO, use of digital and traditional radiographic technology, and introduction to extraoral techniques.

Total Credits	3
Total Hours	60

Pre/Corequisites

Corequisite	DAS 113 Dental Materials I
Prerequisite	DAS 119 Dental Anatomy
Corequisite	DAS 120 Dental Science
Corequisite	DAS 122 Chairside Assisting I
Prerequisite	DAS 149 Infection Control for Dental Practice
Prerequisite	DAS 116 Introduction to General Anatomy and Physiology

DAS 116 Introduction to General Anatomy and Physiology

Course Standard

Course Information

Description	This course provides the future dental professional an introduction to anatomy and physiology.

Total Credits	2
Total Hours	30

Pre/Corequisites

Prerequisite	BUS 121 Business Communication
Prerequisite	CPR 001 CPR for Healthcare Providers
Corequisite	DAS 119 Dental Anatomy
Corequisite	DAS 149 Infection Control for Dental Assistants

DAS 119 Dental Anatomy

Course Standard

Course Information

Description	Demonstrate a fundamental knowledge of tooth and oral anatomy, head and neck and the terminology necessary for more advanced skills and for a successful career in dentistry.

Total Credits	2
Total Hours	30

Pre/Corequisites

Prerequisite	CPR 001 CPR for Healthcare Providers
Corequisite	DAS 149 Infection Control for Dental Practice
Corequisite	DAS 116 Introduction to General Anatomy and Physiology
Prerequisite	BUS 121 Business Communications

DAS 120 Dental Science

Course Standard

Course Information

Description   Students are provided with knowledge and basic dental pharmacology, management of dental and medical emergencies found in a dental setting. Students are expected to recognize signs and symptoms of specific emergencies to assist in the delivery of the suggested treatment. In addition, the student will discuss nitrous oxide and its administration. The student must complete a written examination on medical emergencies and administrating/monitoring of nitrous oxide-oxygen analgesia with a proficiency of 75% or better and demonstrate administration and monitoring of nitrous oxide-oxygen analgesia with a proficiency of 85% or better in order to obtain the certification in administrating/monitoring of nitrous-oxygen analgesia.

Total Credits   2

Total Hours   45

Pre/Corequisites

Corequisite	DAS 113 Dental Materials I
Corequisite	DAS 114 Dental Radiology I
Prerequisite	DAS 119 Dental Anatomy
Corequisite	DAS 122 Chairside Assisting I
Prerequisite	DAS 149 Infection Control for Dental Practice.
Prerequisite	DAS 116 Introduction to General Anatomy and Physiology

DAS 122 Chairside Assisting I

Course Standard

Course Information

Description   Introduction to the dental health profession and dental assisting. Provides students with knowledge of performing extraoral/intraoral examination, prevention dentistry, dental assisting with direct and indirect restorations (basic and restorative instruments, moisture control, matrix system) and pediatric dentistry.

Total Credits   4

Total Hours   120

Pre/Corequisites

Corequisite	DAS 113 Dental Materials I
Corequisite	DAS 114 Dental Radiology I
Prerequisite	DAS 119 Dental Anatomy
Corequisite	DAS 120 Dental Science

DAS 140 Chairside Assisting II

Course Standard

Course Information

Description	Continuation of DAS122 Chairside Assisting I. This course will provide a foundation for assisting in the dental specialties of oral and maxillofacial surgery, endodontics,and removable prosthodontics, periodontics, orthodontics and dentofacial orthopedics, and pediatric dentistry. Procedures, instruments and materials involved in these areas will be studied.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   DAS 113 Dental Materials I

Prerequisite   DAS 114 Dental Radiology I

Prerequisite   DAS 120 Dental Science

Prerequisite   DAS 122 Chairside Assisting I

Corequisite   DAS 147 Dental Practice Management

Prerequisite   DAS 149 Infection Control in Dental Practice

Corequisite   DAS 148 Dental Materials II

Corequisite   DAS 150 Clinical Experience

DAS 147 Dental Practice Management

Course Standard

Course Information

Description	This course will provide instruction in additional business office procedures with an introduction to computer and dental software, business ethics and jurisprudence, business oral and written communications, inventory systems and supply ordering, maintenance and retention of business records, management of patient information, financial and recall systems.

Total Credits   3

Total Hours   45

DAS 148 Dental Materials II

Course Standard

Course Information

Description   This course is a continuation of DAS113 Dental Materials I and includes identification of materials used in general dentistry and dental laboratory procedures. Proper manipulation of materials, their uses and correct storage are practiced. Study various laboratory procedures including manipulation of waxes, polishing and cleansing of a removable prosthesis, manipulation and use of acrylic and thermoplastics.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite	DAS 113 Dental Materials I
Prerequisite	DAS 114 Dental Radiology I
Prerequisite	DAS 120 Dental Science
Prerequisite	DAS 122 Chairside Assisting I
Corequisite	DAS 147 Dental Practice Management
Corequisite	DAS 140 Chairside Assisting II
Corequisite	DAS 150 Clinical Experience

DAS 149 Infection Control for Dental Practice

Course Standard

Course Information

Description   Introductory principles of microbiology: classification and characteristics of microbes with primary consideration to pathogenic microorganisms, causes of disease, transmission of infectious diseases, immune response, universal precautions, handling of hazardous materials and infection control techniques according to OHSA and ADA guidelines.

Total Credits   2

Total Hours   30

DAS 150 Clinical Experience

Course Standard

Course Information

Description   This course gives students the opportunity to apply and practice the principles and procedures studied in the formal academic program. In private practice dental offices (both general practice and specialty offices), government clinics and public health facilities, students demonstrate the principles of chairside assisting, dental laboratory procedures and dental office procedures. Students will be assigned to two clinical rotations, one of which will be a general practice office.

Total Credits   7

Total Hours   315

Pre/Corequisites

Prerequisite	DAS 113 Dental Materials I
Prerequisite	DAS 114 Dental Radiology I
Prerequisite	DAS 120 Dental Science
Prerequisite	DAS 122 Chairside Assisting I
Corequisite	DAS 147 Dental Practice Management
Corequisite	DAS 140 Chairside Assisting II
Corequisite	DAS 148 Dental Materials II

DIS 150 Directed Individual Studies

Course Standard

Course Information

Description   Provides the instructor and student an opportunity to develop special learning environments. Instruction is delivered through occupational work experience, practicums, advanced projects, industry sponsored workshops, seminars, or specialized and/or innovative learning arrangements. Topics include: application of occupational technical skills, adaptability to the work environment, and problem solving. Each course is documented with a written agreement between the instructor and the student detailing expected requirements. The course is offered with variable credit ranging from 1 to 4 credit hours.

Total Credits   4

Total Hours   180

DMK 110 Introduction to Media Arts

Course Standard

Course Information

Description   Offers an introduction to media arts and the interconnectedness of audio, film, animation and gaming. Introduces fundamental concepts in analyzing and interpreting popular media delivery. The course will employ lectures, guest speakers, collaborative projects and experimental modes of learning. Content will also cover resources available on campus and in the community. Written assignments will encourage students to think about how various media and entertainment influences culture and their response to these influences. Attendance at outside events, lectures and festivals is required.

Total Credits   3

Total Hours   45

DMK 120 Basic Digital Editing

Course Standard

Course Information

Description   Introduction to skills, principles and ethics of using audio, images and video to tell stories via Internet-based media.

Total Credits   3

Total Hours   60

DMK 125 Community Building and Management

Course Standard

Course Information

Description   Students will be equipped with the knowledge and skills needed to create and support an online community that drives awareness, interest, and conversion for

brands.

Total Credits 3

Total Hours 75

DMK 135 Social Media Marketing and Management

Course Standard

Course Information

Description	Students will be equipped with the relevant knowledge, perspective and practical skills required to develop marketing strategies that leverage the opportunities inherent in social media for achieving business and marketing goals.

Total Credits 3

Total Hours 60

Pre/Corequisites

Prerequisite   ENG 101 Composition I

Prerequisite   DMK 120 Basic Digital Editing

Prerequisite   BUS 140 Principles of Marketing

DMK 140 Introduction to Audio/Visual Production

Course Standard

Course Information

Description	This course will provide students with the skills associated with production and direction of video and audio programs. Hands-on use of standard audio and video production equipment to learn the most current and effective techniques will be integral to the course.

Total Credits 3

Total Hours 75

Pre/Corequisites

Prerequisite   DMK 120 Basic Digital Editing

DMK 150 Search Engine Optimization & Marketing
Course Standard

Course Information

Description   This course is designed to introduce the student to the core concepts of Search Engine Optimization (SEO) and Search Engine Marketing (SEM). Students will learn to ensure their site is digestible by Google and other users resulting in better search engine rankings.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   DMK 135 Social Media Marketing and Management

DMK 160 Introduction to Analytics
Course Standard

Course Information

Description   This course is designed to introduce students to the core concepts of digital analytics. The course will explore the effectiveness of marketing campaigns and how to optimize results. This course will prepare students to take the Google Analytics Certification.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   DMK 150 Search Engine Optimization & Marketing

DMK 163 Introduction to Digital Advertising
Course Standard

Course Information

Description   Introduction to the skills, principles, and design of digital advertising that drives business value and engages with online audiences.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   DMK 120 Basic Digital Editing

Prerequisite   DMK 135 Social Media Marketing and Management

Prerequisite   DMK 150 Search Engine Optimization & Marketing

Prerequisite   DMK 160 Introduction to Analytics

DMK 170 Digital Marketing Capstone

Course Standard

Course Information

Description   In this project-based course, students will apply the skills and knowledge acquired throughout the Digital Marketing program to a real-world project. In partnership with a local non-profit organization, students will create a digital marketing strategy designed to meet the customer needs. Students will produce a critical reflection on their capstone experience demonstrating how they have addressed specific learning goals. A successful project will include a project presentation to representatives of the non – profit organization, faculty and fellow students.

Total Credits   4

Total Hours   180

Pre/Corequisites

Prerequisite   DMK 160 Introduction to Analytics

DMK 175 Digital Marketing Internship

Course Standard

Course Information

Description   The internship represents an educational strategy linking the classroom with the acquisition of knowledge in the workplace. Through direct observation, reflection and evaluation, students gain an insight into the internship site's work, mission, and audience, how these relate to their academic study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.

Total Credits   4

Total Hours   180

ECO 105 Principles of Macroeconomics

Course Standard

Course Information

Description   This course explores the fundamental aspects of the United States economy including growth, fiscal and monetary policies, unemployment, inflation, national debt, money and the Federal Reserve System. National and international policy topics are discussed.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   ED Ready GMID - score of 39 or higher

ECO 110 Principles of Microeconomics

Course Standard

Course Information

Description   Attention will be given to the methods of producing the goods and services that our economy provides. The following areas are explored: supply, demand, pricing, scarcity, business firms and business anti-trust and public interest, incomes, wages and salaries, income distribution, taxes, and tax reform.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   EdReady GMID - Score of 39 or higher

EDU 120 Introduction to Teaching

Course Standard

Course Information

Description   This is a preparation course introducing students to the field of teaching. Topics include current learning standards, lesson plan components, the realities of teaching as a career, certification requirements, professional expectations, and an introduction to teaching strategies. This course provides students with the opportunity to explore the field of teaching, reflect on their interest in education, create and present an instructional lesson, and develop connections with other future educators.

Total Credits   3

Total Hours   45

EDU 121 Introduction to Teaching – Field Experience

Course Standard

Course Information

Description
This course provides an opportunity for hands-on experiences in a PreK-12 classroom. Students are required to complete 25 hours in the field during the semester. Students will reflect upon topics and issues such as diversity, effective teaching strategies, and educational structures as they are experienced in the PreK-12 classroom.

Total Credits   1

Total Hours   25

EDU 140 Children's Literature

Course Standard

Course Information

Description
This course introduces students to the literary and visual styles in Children's Literature. Students will understand the role of literature in instruction including meeting state standards and reading development.

Total Credits   3

Total Hours   45

EDU 160 Educational Technology

Course Standard

Course Information

Description
This course will introduce students to a variety of technology used in educational settings to enhance instruction. Students will learn how to integrate technology and assist students and parents with technology. The importance of cybersecurity and online safety will be discussed.

Total Credits   3

Total Hours   45

EDU 180 Educating Exceptional Students

Course Standard

Course Information

Description	This course introduces students to the strengths and needs of learners with exceptional needs, including those with physical and cognitive disabilities and those who exhibit gifts and talents. Students will explore the effects of cultural differences, human development, and education policy.
Total Credits	3
Total Hours	45

EDU 200 Classroom Management

Course Standard

Course Information

Description	This course will introduce students to best practices in classroom management and assessment. Topics include time management, organizing materials and classroom space, and managing student behavior.
Total Credits	3
Total Hours	45

EDU 210 Assessing Student Learning

Course Standard

Course Information

Description	This course will examine approaches to assessment and evaluation of student learning. Students will be introduced to the basic concepts of standardized and non-standardized assessment including formative and curriculum-based assessments.
Total Credits	3
Total Hours	45

EDU 220 Introduction to Teaching – Field Experience

Course Standard

Course Information

Description	This course provides an opportunity for hands-on experiences in a PreK-12 classroom. Students are required to complete 25 hours in the field during the semester. Students will reflect upon topics and issues such as diversity, effective teaching strategies, and educational structures as they are experienced in the PreK-12 classroom.
Total Credits	1
Total Hours	25

EDU 230 Art in the Elementary Classroom

Course Standard

Course Information

Description	Understanding visual artistic processes as they relate to the growth and development of children. Focus on visual art experiences, methods, and curriculum for prospective K-6 classroom teachers.
Total Credits	3
Total Hours	45

EDU 240 Music in the Elementary Classroom

Course Standard

Course Information

Description	This course is designed to prepare students for teaching music to children in grades K-6. Emphasis is placed on developing a philosophy of music education that considers the developmental needs of children as foundational in the process of teaching music concepts. Students will develop skills in teaching music that incorporates singing, movement, playing instruments, listening, creating, and writing.
Total Credits	3

ELT 101 Fundamentals of Electronics Technology

Course Standard

Course Information

Description This course is designed to introduce the student to the electronics profession through a review of required skills, abilities and the understanding of key concepts: safety awareness, conductors, circuit protection and controls, the soldering of conductors and electronic components, magnetism, electromagnetism, magnetic induction, DC and AC motors and generators, and AC power distribution through laboratory experimentation including the use of measurement devices and measuring electrical characteristics. The course completes with the execution of a module certification exam from the Electronics Technology Association International (ETA-i) in Comprehensive Basics.

Total Credits 3

Total Hours 45

Pre/Corequisites

Corequisite   MTH 101 Intermediate Algebra

ELT 103 Introduction to Programming

Course Standard

Course Information

Description This course is an introduction to computer concepts, logic, and computer programming. The topics include designing, coding, debugging, testing, and documenting programs using the high-level programming language.

Total Credits 3

Total Hours 45

Pre/Corequisites

Corequisite   MTH 101 Intermediate Algebra

ELT 105 DC Electronics

Course Standard

Course Information

Description

This course is designed to introduce the student to the fundamental concepts of electricity and electronics that involve direct current (DC) including the use of analog and digital multimeters, resistors, conductors, insulators, primary and secondary voltage cells, Ohm's Law, the Power Law, and Kirchhoff's Voltage and Current Laws, and application of these laws to the analysis of series, parallel, series/parallel resistive circuits, voltage dividers and current dividers. The course completes with the execution of a module certification exam from the Electronics Technology Association International (ETA-i) in DC Basics.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   MTH 101 Intermediate Algebra

Corequisite   ELT 106 DC Electronics Lab

Prerequisite   ELT 101 Fundamentals of Electronics Technology

ELT 106 DC Electronics Lab

Course Standard

Course Information

Description

This laboratory course is designed to introduce the student to the fundamental concepts of electricity and electronics that involve direct current (DC) including the use of analog and digital multimeters, resistors, conductors, insulators, primary and secondary voltage cells, Ohm's Law, the Power Law, and Kirchhoff's Voltage and Current Laws, and application of these laws to the analysis of series, parallel, series/parallel resistive circuits, voltage dividers and current dividers. This course will provide students with hands-on experience performing experiments using the FACET LabVolt Electronics Training System and MindSight Learning Content Management System.

Total Credits   2

Total Hours   60

Pre/Corequisites

Corequisite   ELT 105 DC Electronics

Prerequisite   MTH 101 Intermediate Algebra

Prerequisite   ELT 101 Fundamentals of Electronics Technology

ELT 108 Fundamentals of Small UAS Operations

Course Standard

Course Information

Description   This course is an introduction to small unmanned aircraft systems (UAS) including knowledge areas covered on the airman knowledge test for a Remote Pilot Certificate with a Small Unmanned Aircraft Systems Rating. Successful completion will prepare the student for the FAA Part 107 Remote Pilot Certificate.

Total Credits   3

Total Hours   45

ELT 110 AC Electronics

Course Standard

Course Information

Description   This course is designed to introduce the student to the fundamental concepts of electricity and electronics that involve alternating current (AC) including the use of signal waveform generators, oscilloscopes, capacitors, inductors, and measurement of capacitance, inductance, capacitive reactance, inductive reactance, and RC and L/R time constants. Students will also learn the fundamentals of magnetism, electro-magnetism, and the use of transformers. The course completes with the execution of a module certification exam from the Electronics Technology Association International (ETA-i) in AC Basics.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   ELT 105 DC Electronics

Prerequisite   ELT 106 DC Electronics Lab

Corequisite   ELT 111 AC Electronics Lab

ELT 111 AC Electronics Lab

Course Standard

Course Information

Description　　This laboratory course is designed to introduce the student to the fundamental concepts of electricity and electronics that involve alternating current (AC) including the use of signal waveform generators, oscilloscopes, capacitors, inductors, and measurement of capacitance, inductance, capacitive reactance, inductive reactance, and RC and L/R time constants. Students will also learn the fundamentals of magnetism, electro-magnetism, and the use of transformers. This course will provide students with hands-on experience performing experiments using the FACET LabVolt Electronics Training System and MindSight Learning Content Management System.

Total Credits　　2

Total Hours　　60

Pre/Corequisites

Prerequisite　　　　ELT 105 DC Electronics

Corequisite　　　　ELT 110 AC Electronics

Prerequisite　　　　ELT 106 DC Electronics Lab

ELT 115 Digital Electronics Fundamentals

Course Standard

Course Information

Description　　This course is designed to provide students with the concepts and terminology utilized in digital electronics. The student will be exposed to the most basic concepts of digital electronics to a wide variety of the fundamentals for circuits used in today's avionics equipment and aircraft switching circuits. Once an understanding of the numbering system is achieved the course proceeds to basic logic circuits. The course completes with the execution of a module certification exam from the Electronics Technology Association International (ETA-i) in Digital Basics.

Total Credits　　2

Total Hours　　30

Pre/Corequisites

Prerequisite　　　　ELT 101 Fundamentals of Electronics Technology

Corequisite　　　　ELT 105 DC Electronics

Prerequisite　　　　MTH 101 Intermediate Algebra

Corequisite　　　　ELT 116 Digital Electronics Fundamentals Lab

Corequisite　　　　ELT 106 DC Electronics Lab

ELT 120 Solid State Electronics

Course Standard

Course Information

Description   This course is designed to introduce the student to the fundamental concept and uses of solid state devices including diodes, bipolar junction transistors, and field effect transistors in circuit designs such as rectifiers, clamping circuits, switching circuits, single- stage and multi-stage transistor amplifiers, and power amplifiers.   The course completes with the execution of a module certification exam from the Electronics Technology Association International (ETA-i) in Analog Basics.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   ELT 110 AC Electronics

Corequisite   ELT 121 Solid State Electronics Lab

Prerequisite   ELT 111 AC Electronics Lab

ELT 121 Solid State Electronics Lab

Course Standard

Course Information

Description   This course is designed to introduce the student to the fundamental concept and uses of solid state devices through laboratory experimentation including diodes, bipolar junction transistors, and field effect transistors in circuit designs such as rectifiers, clamping circuits, switching circuits, single- stage and multi-stage transistor amplifiers, and power amplifiers. This course is a companion to the Solid State Electronics course.

Total Credits   2

Total Hours   60

Pre/Corequisites

Corequisite   ELT 120 Solid State Electronics

Prerequisite   ELT 110 AC Electronics

Prerequisite   ELT 111 AC Electronics Lab

ELT 125 Introduction to Avionics

Course Standard

Course Information

Description   This course is designed to give an overview of the entire avionics field. All major avionics systems, their components and fundamentals of system interactions will be examined. Common avionics abbreviations and acronyms, relevant FAA regulations, and system usages will be studied.

Total Credits   2

Total Hours   30

ELT 127 Wiring & Cannon Plug Lab

Course Standard

Course Information

Description   The student will learn methods of construction and repair of avionics system wiring harnesses. Students will learn and perform practice exercises with the most common types of aircraft connectors, tooling, and wiring systems used in today's aircraft.

Total Credits   2

Total Hours   60

ELT 129 Advanced Wiring

Course Standard

Course Information

Description   The Advanced Wiring course will instruct students in the fabrication and installation of electronic wiring interconnect systems. This instruction will include termination of individual stranded wires, shielded wires, twisted shielded pairs, and co-axial cables to cannon plugs, plastic connectors, terminal lugs, and terminal and ground blocks. Through classroom discussion and hands-on training, students will learn about handling wire harnesses, ESD protection, proper wire routing, wire protection, electrical bonding, connector buildup, contact insertion, and extraction.

Total Credits   4

Total Hours   90

Pre/Corequisites

Prerequisite   ELT 127 Wiring & Cannon Plug

ELT 130 Avionics Systems & Troubleshooting

Course Standard

Course Information

Description   This course introduces the student to avionics testing and troubleshooting. Students will study the troubleshooting theory of VHF COM, VHF NAV, ILS, Marker Beacon, DME, Transponder, and Pitot-Static systems. Further study of complex wiring diagrams will offer the opportunity for the student to relate the theoretical to the practical. All theory oriented studies are performed under this class.

Total Credits   2

Total Hours   30

Pre/Corequisites

Corequisite   ELT 131 Avionics Systems & Troubleshooting Lab

ELT 131 Avionics Systems & Troubleshooting Lab

Course Standard

Course Information

Description   This course is the laboratory component of ELT 130. The student will operate the most common avionics test equipment and will learn to perform common functional tests: VHF COM, VHF NAV, ILS, Marker Beacon, Transponder, DME, SWR, and operation of a Time Domain Reflectometer. Troubleshooting of common avionics problems will also be introduced as students troubleshoot system faults on avionics system trainers and a variety of aircraft. All laboratory performance requirements in support of ELT 130 are performed in this class.

Total Credits   2

Total Hours   60

Pre/Corequisites

Corequisite   ELT 130 Avionics Systems & Troubleshooting

ELT 132 Fundamentals of Flight

Course Standard

Course Information

Description   The Fundamentals of Flight students will learn the basic forces acting on aircraft in flight, Aircraft primary flight controls, Aircraft secondary flight controls, and the theory of autopilot operation, with an introduction to aircraft flight instruments as well as aircraft navigation, including dead reckoning, ground-based radio navigation, space-based radio navigation. In addition, the course will cover an introduction to aircraft systems such as retractable gear operation and indication. Engine indication and fuel quantity indication will be introduced as well.

Total Credits   3

Total Hours   45

ELT 134 Principles of Troubleshooting

Course Standard

Course Information

Description   The Principles of Troubleshooting course instructs today's aircraft maintenance technicians on a logical approach to solving aircraft problems. The course consists of lectures and hands-on practice using computer simulations of aircraft systems and related test equipment. Using the simulation, the technician analyzes the fault and chooses maintenance actions such as continuity tests, bench checking, and component swapping that they might apply to correct the problem. In addition, the simulation program not only evaluates the logic used but also keeps track of the time and expenses incurred by the technician while solving problems.

Total Credits   2

Total Hours   45

ELT 135 Communications, Navigation, and Surveillance Systems I

Course Standard

Course Information

Description   This course and its associated laboratory section is the first of two courses which study the electrical and electronic characteristics of typical aircraft electrical power generation and distribution systems, instrument systems, communications systems and navigation systems. In this first part of the course, students will advance through the design of a complete avionics installation, learning the primary system characteristics and interconnection requirements of typical avionics boxes. They will study aircraft wiring diagrams, learn a basic CAD system, design a small general aviation flight deck utilizing CAD.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   ELT 125 Introduction to Avionics Systems

Corequisite   ELT 136 Communications, Navigation, and Surveillance Systems I Lab

ELT 136 Communications, Navigation, and Surveillance Systems I Lab

Course Standard

Course Information

Description   This course is the laboratory component of ELT 135. The student will operate CAD software to create and design an avionics flight desk design. The student will create an electrical load analysis and a cost breakdown for their design.

Total Credits   3

Total Hours   90

Pre/Corequisites

Corequisite   ELT 135 Communication, Navigation, and Surveillance Systems I

Prerequisite   ELT 125 Introduction to Avionics

ELT 137 Communications, Navigation, and Surveillance Systems II

Course Standard

Course Information

Description   This course and its associated laboratory section continues the study of typical avionics systems. In this course, students will learn the characteristics and requirements of integrated electronics systems such as the Garmin. They will also learn basic instrument theory and operation and will study engine and system operation monitoring. All theory oriented studies are performed under this class.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   ELT 135 Communications, Navigation and Surveillance Systems I

Corequisite   ELT 138 Communications, Navigation and Surveillance Systems II Lab

Prerequisite   ELT 136 Communications, Navigation and Surveillance Systems I Lab

ELT 138 Communications, Navigation, and Surveillance Systems II Lab

Course Standard

Course Information

Description   This course is the laboratory component of ELT 137. The student will construct and install a wire harness for a small general aviation avionics and instrument panel, construct a pitot-static system, wring out their harness, install their harness, perform safe-to-turn-on testing, install the radios and instruments and test the completed avionics and instrument system. All laboratory performance requirements in support of ELT 137 are performed in this class.

Total Credits   3

Total Hours   90

Pre/Corequisites

Prerequisite   ELT 136 Communications, Navigation and Surveillance Systems I Lab

Corequisite   ELT 137 Communications, Navigation, and Surveillance Systems II

Prerequisite   ELT 135 Communications, Navigation, and Surveillance Systems I

ELT 140 Aircraft and Electronics for NCATT Applications

Course Standard

Course Information

Description   This class helps student increase the knowledge and skills required to troubleshoot and repair practical electronics projects and prepares the student to be successful on the avionics primary certification test given by the National Center for Aerospace and Transportation Technologies.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   ELT 130 Avionics Systems and Troubleshooting

Prerequisite   ELT 131 Avionics Systems and Troubleshooting Lab

ELT 145 Integrated Circuits and Systems

Course Standard

Course Information

Description   This course is designed to introduce the student to the uses of commercially-available integrated circuit devices including operational amplifiers, oscillators, and voltage regulators in circuit designs such as comparators, converters, summing amplifiers, integrators, differentiators, active filters, timing circuits, series and shunt voltage regulators, radio frequency amplifiers, basic receivers, amplitude and frequency modulators, and phase locked loops.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   ELT 121 Solid State Electronics Lab

Prerequisite   ELT 120 Solid State Electronics

Corequisite   ELT 150 Antennas and Wave Propagation

Corequisite   ELT 151 Antennas and Wave Propagation Lab

Corequisite   ELT 146 integrate Circuits and Systems Lab

ELT 146 Integrated Circuits and Systems Lab

Course Standard

Course Information

Description This course is designed to introduce the student through lab experiments to the uses of commercially-available integrated circuit devices including operational amplifiers, oscillators, and voltage regulators in circuit designs such as comparators, converters, summing amplifiers, integrators, differentiators, active filters, timing circuits, series and shunt voltage regulators, radio frequency amplifiers, basic receivers, amplitude and frequency modulators, and phase locked loops. This course is a companion to the Integrated Circuits and Systems course.

Total Credits 2

Total Hours 60

Pre/Corequisites

Corequisite   ELT 145 Integrated Circuits and Systems

Prerequisite   ELT 120 Solid State Electronics

Prerequisite   ELT 121 Solid State Electronics Lab

Corequisite   ELT 150 Antennas and Wave Propagation

Corequisite   ELT 151 Antennas and Wave Propagation Lab

ELT 150 Antennas and Wave Propagation

Course Standard

Course Information

Description This course introduces the student to the basic principles of transmission lines and electromagnetic wave propagation and applies these principles to antenna theory and microwave devices with applications to terrestrial and satellite communications systems.

Total Credits 2

Total Hours 30

Pre/Corequisites

Corequisite   ELT 145 Integrated Circuits and Systems

Corequisite   ELT 146 Integrated Circuits and Systems Lab

Prerequisite   ELT 120 Solid State Electronics

ELT 151 Antennas and Wave Propagation Lab

Course Standard

Course Information

Description	This laboratory course is a companion to the course on antennas and wave propagation and gives the students the practical application of electromagnetic wave propagation by applying these principles to antenna theory and microwave devices with applications to terrestrial and satellite communications systems.

Total Credits   3

Total Hours   90

Pre/Corequisites

Corequisite	ELT 150 Antennas and Wave Propagation
Corequisite	ELT 145 Integrate Circuits and Systems
Prerequisite	ELT 120 Solid State Electronics
Prerequisite	ELT 121 Solid State Electronics Lab
Corequisite	ELT 146 Integrated Circuits and Systems Lab

ELT 155 Electronic Communication Circuits and Systems

Course Standard

Course Information

Description	This course introduces the basic principles and operation of system components of wireless communication systems. The course begins with traditional analog systems, modern digital techniques, and continues into cellular, radio, paging systems, and wireless data networks, data communication and the internet, high-definition television, and fiber optics. The lab portion of this course includes traditional analog AM, SSB, and angle modulation systems, modern digital techniques including Pulse-Amplitude Modulation (PAM), PAM Time-Division Multiplexing, and Pulse-Time Modulation techniques.

Total Credits   2

Total Hours   30

Pre/Corequisites

ELT 156 Electronic Communication Circuits and Systems Lab
Course Standard

Course Information

Description   This course is a laboratory companion course designed to introduce the student to the practical applications of the basic principles and operation of system components of wireless communication systems. The course begins with traditional analog AM, SSB, and angle modulation systems, and continues with modern digital techniques including Pulse-Amplitude Modulation (PAM), PAM Time-Division Multiplexing, and Pulse-Time Modulation techniques.

Total Credits   3

Total Hours   90

Pre/Corequisites

Corequisite   ELT 155 Electronic Communication Circuits and Systems

ELT 160 Microprocessor and Microcontroller Systems
Course Standard

Course Information

Description   This course is designed to introduce the student to the fundamental concepts and uses of microprocessors and microcontroller systems including microprocessor architecture, assembly language programming, and the application of microcontrollers in embedded systems.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   ELT 120 Solid State Electronics
Prerequisite   ELT 121 Solid State Electronics Lab
Corequisite   ELT 161 Microprocessor and Microcontroller Systems Lab

ELT 161 Microprocessor and Microcontroller Systems Lab

Course Standard

Course Information

Description   This course is a laboratory companion course in microprocessors and microcontrollers. The course is designed to introduce the student through assembly programming assignments the fundamental concepts and uses of microprocessors and microcontrollers in the control of electronic hardware, particularly in the application of microcontrollers into embedded systems.

Total Credits   3

Total Hours   90

Pre/Corequisites

Corequisite   ELT 160 Microprocessor and Microcontroller Systems

Prerequisite   ELT 120 Solid State Electronics

Prerequisite   ELT 121 Solid State Electronics Lab

ELT 165 Electronic Measurement and Instrumentation

Course Standard

Course Information

Description   This course is designed to introduce the student to the fundamental concepts of measurement techniques of voltage, current, resistance, capacitance, and frequency, and the use of various transducers and sensors. Students will also learn the fundamentals of signal conditioning circuits and their use with data acquisition systems.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   ELT 160 Microprocessor and Microcontroller Systems

Prerequisite   ELT 161 Microprocessor and Microcontroller Systems Lab

Corequisite   ELT 166 Electronic Measurement and Instrumentation Lab

ELT 166 Electronic Measurement and Instrumentation Lab

Course Standard

Course Information

Description   This course is a laboratory companion course designed to introduce the student to the practical applications of measurement techniques and the use of various transducers including resistive strain gages, resistive and piezo-electric pressure sensors, piezo-electric vibration sensors, and RTD temperature sensors. Students will also construct practical signal conditioning circuits and use commercially-available data acquisition systems.

Total Credits   3

Total Hours   90

Pre/Corequisites

Corequisite   ELT 165 Electronic Measurement and Instrumentation

Prerequisite   ELT 160 Microprocessor and Microcontroller Systems

Prerequisite   ELT 161 Microprocessor and Microcontroller Systems Lab

EMS 103 EMT 1

Course Standard

Course Information

Description   The EMT 1 course provides students with the academic and professional knowledge and skills to provide emergency medical care and transportation for critical and emergent patients who access the emergency medical systems. The student will learn about an EMS system, medical and legal considerations, and documentation. The students will learn medical terminology, anatomy, and physiology as it relates to a medical emergency patient. Upon completion of this course, students will possess the knowledge and skills necessary to provide patient care and transportation of medical emergency patients. The student will be prepared to function as part of a comprehensive EMS response team, under medical oversight. Students in the EMT course will apply basic medical interventions with equipment typically found on an ambulance in order to act as a link from the scene of the emergency to the emergency health care facility.

Total Credits   6

Total Hours   105

EMS 104 EMT 2

Course Standard

Course Information

Description   The EMT 2 course provides students with the academic and professional knowledge and skills to provide emergency medical care and transportation for critical and emergent patients who access the emergency medical systems. Upon completion of this course, students will possess the knowledge and skills necessary to provide patient care and transportation for trauma and special populations. The student will be prepared to function as part of a comprehensive EMS response team, under medical oversight. Students in the EMT course will apply basic medical interventions with trauma equipment typically found on an ambulance in order to act as a link from the scene of the emergency to the emergency health care facility. EMT 2 students will learn about EMS system operations including HazMat and Mass Casualty Incidents. EMT 1 and EMT 2 prepare students for EMT National Registry Exam and covers all EMT Education Standards for EMT – level Instruction.

Total Credits   6

Total Hours   120

Pre/Corequisites

Prerequisite   EMS 103 EMS 1

EMS 105 Emergency Medical Technician

Course Standard

Course Information

Description   The EMT course provides students with the academic and professional knowledge and skills to provide emergency medical care and transportation for critical and emergent patients who access the emergency medical systems. Upon completion of this course, students will possess the knowledge and skills necessary to provide patient care and transportation. The student will be prepared to function as part of a comprehensive EMS response team, under medical oversight. Students in the EMT course will apply basic medical interventions with equipment typically found on an ambulance in order to act as a link from the scene of the emergency to the emergency health care facility. This course prepares students for EMT National Registry Exam and covers all EMT Education Standards for EMT – level Instruction.

Total Credits   12

Total Hours   225

Pre/Corequisites

Corequisite   CPR 001 CPR for Healthcare Providers

EMS 115 Tactical Medicine

Course Standard

Course Information

Description   This course will cover tactical emergency medicine—the practice of emergency medicine in the field during disasters, police or military conflicts, mass causality events, and community incidents. Key topics covered include hostage survival, insertion and extraction techniques, continuum of force, medical support, planning and triage, medical evaluation in the incident zone, care in custody, medical control of incident site, decontamination, community communication, and more.

Total Credits   3

Total Hours   45

ENT 110 Introduction to Entrepreneurship

Course Standard

Course Information

Description   The purpose of this course is to familiarize students with the world of small business. Students will be introduced to the concepts needed to seek out business

opportunities as well as the tools needed to evaluate successful ventures. Considerable attention will be given to the concepts of planning, financing and marketing new businesses.

Total Credits   3

Total Hours   45

ENT 115 Entrepreneurship II

Course Standard

Course Information

Description   The marketplace has changed dramatically over the last 20 years. To compete and grow, small businesses must do more than just give lip service to putting the customer at the center of the business. Students learn the different paths to business ownership, how to effectively market new products, management strategies for the 21st century and how to plan financially for a business.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   ENT 110 Introduction to Entrepreneurship

FOL 101 Spanish I

Course Standard

Course Information

Description   This course is designed to help the student increase their knowledge of Spanish vocabulary, grammar, elementary syntax and composition, basic reading, and pronunciation with practice in everyday conversation.

Total Credits   5

Total Hours   75

FOL 110 Spanish II

Course Standard

Course Information

Description	This course is designed to help the student increase their knowledge of Spanish vocabulary, grammar, elementary and intermediate syntax and composition, basic reading, and pronunciation with practice in everyday conversation.

Total Credits   5

Total Hours   75

Pre/Corequisites

Prerequisite   FOL 101 Spanish I

FOL 120 Essential Spanish for the Workplace
Course Standard

Course Information

Description	This course provides immediate access to functional Spanish language skills and cultural competence for non-Spanish speaking students enrolled in a career-specific degree, diploma, or certificate program. It is a practical step toward communication in settings where comprehension is crucial. Cultural awareness will be addressed, as well. The vocabulary presented will be tailored to the specific needs of the target occupation. No prior knowledge of Spanish is necessary.

Total Credits   4

Total Hours   90

GEO 101 Principles of Geography
Course Standard

Course Information

Description	This course is designed to provide the student with an introduction of how geography influences social, cultural, economic, political, and environmental systems. Students will gain an understanding of how modern technology and global human ecology shape our knowledge of land, environment, and culture.

Total Credits   3

Total Hours   45

GRA 101 Certified Nurse Aide
Course Standard

Course Information

Description	Prepares students to be caregivers in nursing homes while working under the

supervision of licensed nurses. Includes classroom instruction, laboratory and clinical experience. Program meets Kansas State Department of Health and Environment guidelines. Graduates may take the state examination to become a certified nurse aide.

Total Credits   5

Total Hours   105

GRA 119 Medication Aide

Course Standard

Course Information

Description   Focuses on the knowledge and skills needed for safe medication administration in long–term care facilities. Graduates are eligible to take the Kansas certification examination to become certified medication aides.

Total Credits   5

Total Hours   80

HEM 105 Sanitation and Safety

Course Standard

Course Information

Description   In this course, students will study the basic principles of bacteriology, foodborne illness, sanitation, workplace safety, personal hygiene, food security, health regulations, and inspections. The course emphasizes the importance of sanitary equipment and facilities, and pest control. Students must complete the National Restaurant Association Educational Foundation certification exam to pass this course.

Total Credits   1

Total Hours   15

HEM 110 Hospitality Math

Course Standard

Course Information

Description   Reviews the fundamentals of mathematics, including calculating percent, ratios, decimals, fractions, weights and measures, and introductory algebra concepts.

Emphasizes the application of mathematical fundamentals to a variety of culinary and hospitality uses. Provides instruction in equivalencies, recipe costing and conversion, calculating food and labor cost percentages, baker's percentages, yield conversions, and selling prices.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   Accuplacer Nex Gen Arithmetic NGAC score of 276

HEM 115 Introduction to the Hospitality Industry

Course Standard

Course Information

Description   In this course, students will gain knowledge and develop an appreciation of the multifaceted elements of hospitality management by exploring all aspects of the hospitality, tourism, and event management industries including hotels and lodging; food-service and restaurants; travel and tourism; transportation; meetings, conventions and expositions; leisure and recreation; and, special events. While the focus is on basic hospitality and management principles, this course also reflects the impact of current social, economic, technological, and political factors on operations in the field. Further, students are offered information on the array of careers available in the various segments of the hospitality industry.

Total Credits   3

Total Hours   45

HEM 120 Hospitality Service Techniques

Course Standard

Course Information

Description   Defines and describes points of service in restaurant and banquet functions. Discusses sales techniques, cash handling standards, methods of customer satisfaction, and other topics related to the smooth operation of any restaurant or catered event. The course includes hands-on experience at breakfast, lunch, and dinner in a full-service restaurant. Emphasizes proper service procedures, cost control, and efficient work methods.

Total Credits   3
Total Hours   75

HEM 125 Food & Beverage Management Fundamentals

Course Standard

Course Information

Description   Principal analysis of directing a food and beverage operation, with the examination of food and beverage in restaurant operations. Students will engage in theory and practices of service fundamentals pertaining to food and beverage management.

Total Credits   3
Total Hours   45

HEM 130 Introduction to Lodging Operations

Course Standard

Course Information

Description   The course provides students with an overview of the lodging industry and how its functions are organized and operated. Introduces each of the seven traditional disciplines: general management, hotel sales, financial control, room operations, food, and beverage operations, human resources, and physical plant maintenance. Emphasizes business ethics and effective communication.

Total Credits   2
Total Hours   30

HEM 135 Hospitality Human Resource Management

Course Standard

Course Information

Description   Introduces the functions of human resource management including, planning, communicating, recruiting, hiring, training, coaching, counseling, discipline, performance evaluation, termination, and labor relations. Emphasizes the legal issues related to managerial decisions, motivation and managing diversity.

Total Credits   3

Total Hours   45

HEM 140 Hospitality Financial Management

Course Standard

Course Information

Description   Provides an understanding of basic accounting concepts and procedures relevant to hotel and food service operations. Instructs students in recording transactions, understanding financial statements, managing inventory, payroll problems, occupancy issues and other special topics.

Total Credits   3

Total Hours   45

HEM 145 Fundamentals of Excellent Customer Service

Course Standard

Course Information

Description   This course is designed to prepare students for the professional world of customer service. Students in this course receive a solid knowledge base in the areas of exemplary customer service practices, customer service in the internet age and, business communications.

Total Credits   3

Total Hours 45

HEM 150 Food and Beverage Operations

Course Standard

Course Information

Description Focuses on the management of food and beverage operations in hospitality
establishments. Includes restaurant, banquets, room service, beverage operations,
menu planning, and stewarding. This course prepares students to take the ServSafe
Food Handlers Certification.

Total Credits 3
Total Hours 45

Pre/Corequisites

Prerequisite   HEM 105 Sanitation and Safety

Prerequisite   HEM 110 Hospitality Math

Prerequisite   HEM 115 Introduction to the Hospitality Industry

Prerequisite   HEM 120 Hospitality Service Techniques

Prerequisite   HEM 125 Food & Beverage Management Fundamentals

Prerequisite   HEM 130 Introduction to Lodging Operations

Prerequisite   HEM 135 Hospitality Human Resource Management

Prerequisite   HEM 140 Hospitality Financial Management

Prerequisite   HEM 145 Fundamentals of Excellent Customer Service

HEM 155 Front Office Management

Course Standard

Course Information

Description This course introduces students to the Lodging Operations Front Office. Topics
include reservations, front desk, guest services and human resource deployment
issues specific to front office operations management. This course familiarizes
students with the principles of front desk operational procedures; examines current
trends in guest services; discusses online distribution of room inventory; and
introduces students to the principles of revenue management strategies. Students
work with a Property Management Software to become familiar with computerized
reservations, arrival and charge posting systems.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite	HEM 105 Sanitation and Safety
Prerequisite	HEM 110 Hospitality Math
Prerequisite	HEM 115 Introduction to Hospitality Industry
Prerequisite	HEM 120 Hospitality Service Techniques
Prerequisite	HEM 125 Food & Beverage Management Fundamentals
Prerequisite	HEM 130 Introduction to Lodging Operations
Prerequisite	HEM 135 Hospitality Human Resource Management
Prerequisite	HEM 140 Hospitality Financial Management
Prerequisite	HEM 145 Fundamentals of Excellent Customer Service

HEM 160 Housekeeping and Environmental Services

Course Standard

Course Information

Description   Examines the role of supervisory functions in the housekeeping department. Provides a thorough overview of maintaining a quality staff, planning and organizing, technical details of cleaning a room, managing the laundry, and control of supplies and equipment.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite	HEM 105 Sanitation and Safety
Prerequisite	HEM 110 Hospitality Math
Prerequisite	HEM 115 Introduction to Hospitality Industry
Prerequisite	HEM 120 Hospitality Service Techniques
Prerequisite	HEM 125 Food & Beverage Management Fundamentals
Prerequisite	HEM 130 Introduction to Lodging Operations
Prerequisite	HEM 135 Hospitality Human Resource Management
Prerequisite	HEM 140 Hospitality Financial Management
Prerequisite	HEM 145 Fundamentals of Excellent Customer Service

HEM 165 Revenue Management

Course Standard

Course Information

Description Revenue Management is critical to the hospitality industry due to the perishable nature of service-based products. The fundamental principles and concepts of revenue management covered in this course are capacity management, duration control, demand, and revenue forecasting, discounting, overbooking practices, displacement analysis, channel management, and pricing execution.

Total Credits 3

Total Hours 45

Pre/Corequisites

Prerequisite   HEM 105 Sanitation and Safety

Prerequisite   HEM 110 Hospitality Math

Prerequisite   HEM 115 Introduction to Hospitality Industry

Prerequisite   HEM 120 Hospitality Service Techniques

Prerequisite   HEM 125 Food & Beverage Management Fundamentals

Prerequisite   HEM 130 Introduction to Lodging Operations

Prerequisite   HEM 135 Hospitality Human Resource Management

Prerequisite   HEM 140 Hospitality Financial Management

Prerequisite   HEM 145 Fundamentals of Excellent Customer Service

HEM 170 Sales

Course Standard

Course Information

Description The course introduces the principles, concepts, and systems utilized in the marketing and sales areas within the hospitality industry. The course provides an in-depth analysis of marketing strategies and theories with a holistic appreciation of the scope and importance of the marketing and sales functions in the hospitality business.

Total Credits 3

Total Hours 45

Pre/Corequisites

Prerequisite	HEM 105 Sanitation and Safety
Prerequisite	HEM 110 Hospitality Math
Prerequisite	HEM 115 Introduction to Hospitality Industry
Prerequisite	HEM 120 Hospitality Service Techniques
Prerequisite	HEM 125 Food & Beverage Management Fundamentals
Prerequisite	HEM 130 Introduction to Lodging Operations
Prerequisite	HEM 135 Hospitality Human Resource Management
Prerequisite	HEM 140 Hospitality Financial Management
Prerequisite	HEM 145 Fundamentals of Excellent Customer Service

HEM 175 Event Catering Strategies

Course Standard

Course Information

Description	This course serves as an introduction to planning catering events, responsibilities of the caterer and the event planner as well as techniques for identifying equipment and space needs to facilitate the event.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	HEM 105 Sanitation and Safety
Prerequisite	HEM 110 Hospitality Math
Prerequisite	HEM 115 Introduction to the Hospitality Industry
Prerequisite	HEM 120 Hospitality Service Techniques
Prerequisite	HEM 125 Food & Beverage Management Fundamentals
Prerequisite	HEM 130 Introduction to Lodging Operations
Prerequisite	HEM 135 Hospitality Human Resource Management
Prerequisite	HEM 140 Hospitality Financial Management
Prerequisite	HEM 145 Fundamentals of Excellent Customer Service

HEM 180 Event Industry Fundamentals

Course Standard

Course Information

> **Description**   Overview of the event management industries. This course looks at the most up to date techniques and procedures required for producing successful and sustainable event.

> **Total Credits**   3
>
> **Total Hours**   45

Pre/Corequisites

Prerequisite	HEM 105 Sanitation and Safety
Prerequisite	HEM 110 Hospitality Math
Prerequisite	HEM 115 Introduction to Hospitality Industry
Prerequisite	HEM 120 Hospitality Service Techniques
Prerequisite	HEM 125 Food & Beverage Management Fundamentals
Prerequisite	HEM 130 Introduction to Lodging Operations
Prerequisite	HEM 135 Hospitality Human Resource Management
Prerequisite	HEM 140 Hospitality Financial Management
Prerequisite	HEM 145 Fundamentals of Excellent Customer Service

HEM 185 Event and Meeting Contracting

Course Standard

Course Information

> **Description**   An introduction to the Meeting & Events industry where by contracts are a necessary part of doing business. This course will explore four key components which are the offer, consideration, acceptance, as well as the Banquet Event Order (BEO) or sometimes referred to as the Catering Event Order (CEO).

> **Total Credits**   3
>
> **Total Hours**   45

Pre/Corequisites

Prerequisite	HEM 105 Sanitation and Safety
Prerequisite	HEM 110 Hospitality Math
Prerequisite	HEM 115 Introduction tot the Hospitality Industry
Prerequisite	HEM 120 Hospitality Service Techniques
Prerequisite	HEM 125 Food & Beverage Management Fundamentals
Prerequisite	HEM 130 Introduction to Lodging Operations

Prerequisite	HEM 135 Hospitality Human Resource Management
Prerequisite	HEM 140 Hospitality Financial Management
Prerequisite	HEM 145 Fundamentals of Excellent Customer Service

HEM 190 Event Support Systems

Course Standard

Course Information

Description	In this course, students will examine event objectives and potential sponsorship opportunities for non-profit events as they relate to the event budget. The course will provide students with an opportunity to apply current industry software to manage attendee registration, volunteer management, audiovisual requirements, and event space management. In addition, students will produce reports of the key service providers related to attendee accommodations, transportation, ancillary activities, and post-event evaluations.

Total Credits	3
Total Hours	60

Pre/Corequisites

Prerequisite	HEM 105 Sanitation and Safety
Prerequisite	HEM 110 Hospitality Math
Prerequisite	HEM 115 Introduction to Hospitality Industry
Prerequisite	HEM 120 Hospitality Service Techniques
Prerequisite	HEM 125 Food & Beverage Management Fundamentals
Prerequisite	HEM 130 Introduction to Lodging Operations
Prerequisite	HEM 135 Hospitality Human Resource Management
Prerequisite	HEM 140 Hospitality Financial Management
Prerequisite	HEM 145 Fundamentals of Excellent Customer Service

HEM 195 Special Events and Meetings

Course Standard

Course Information

Description	In this course, students will gain hands-on experience in event planning. Students will also learn to anticipate and execute the needs of an organization or community

planning special events.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   HEM 105 Sanitation and Safety

Prerequisite   HEM 110 Hospitality Math

Prerequisite   HEM 115 Introduction to the Hospitality Industry

Prerequisite   HEM 120 Hospitality Service Techniques

Prerequisite   HEM 125 Food & Beverage Management Fundamentals

Prerequisite   HEM 130 Introduction to Lodging Operations

Prerequisite   HEM 135 Hospitality Human Resource Management

Prerequisite   HEM 140 Hospitality Financial Management

Prerequisite   HEM 145 Fundamentals of Excellent Customer Service

HEM 200 Event Project Planning

Course Standard

Course Information

Description   This course provides an overview of project management as identification and explanation for the building blocks of an event from start to finish. The project triangle is introduced and demonstrates the construction of an event. Students will define the scope, create well-defined requirements, and develop work breakdown structures for an event. Task and precedence diagramming will be taught to develop the event schedule and master task list. Students will also learn to construct an event project communications plan for the purpose of communicating with internal and external stakeholders. The final portion of the course is designed to teach students to close out the function and visualize the lessons learned from the production of the event.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   HEM 175 Event Catering Strategies

Prerequisite   HEM 180 Event Industry Fundamentals

Prerequisite   HEM 185 Event and Meeting Contracting

Prerequisite   HEM 190 Event Support Systems

Prerequisite   HEM 195 Special Events and Meetings

HEM 205 Alcohol Beverage Law

Course Standard

Course Information

Description   This course will prepare students for bartending through the emphasis on ABC Laws, alcohol responsibilities, alcohol awareness, and bar setup. This course will prepare students to complete the ServSafe Alcohol certification.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   HEM 105 Sanitation and Safety

Prerequisite   HEM 110 Hospitality Math

Prerequisite   HEM 115 Introduction to the Hospitality Industry

Prerequisite   HEM 120 Hospitality Service Techniques

Prerequisite   HEM 125 Food & Beverage Management Fundamentals

Prerequisite   HEM 130 Introduction to Lodging Operations

Prerequisite   HEM 135 Hospitality Human Resource Management

Prerequisite   HEM 140 Hospitality Financial Management

Prerequisite   HEM 145 Fundamentals of Excellent Customer Service

HEM 210 Beer and Spirits

Course Standard

Course Information

Description   Introduction to history and methods of production for a variety of beer, spirits, and other beverages. Beverage tasting and sensory analysis; product knowledge; service techniques; sales; and alcohol service relate to the hospitality industry. Students must be 21 years old to participate in this course.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   HEM 205 Alcohol Beverage Law

HEM 215 Food and Alcohol

Course Standard

Course Information

Description   In this course, students will explore the complexity of pairing food and different types of alcohol in today's culinary world. This course will explore the significance of food and drink by examining the fundamental concepts of history, tradition, and culture. Whether planning a large catered event, developing food and wine menus for restaurants or special events, understanding how to pair food with alcohol is an invaluable skill for hospitality professionals.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   HEM 205 Alcohol Beverage Law

HEM 220 Beverage Promotion

Course Standard

Course Information

Description   This course is designed to provide the practical knowledge needed to manage a restaurant bar or beverage operation.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   HEM 205 Alcohol Beverage Law

HEM 225 Wine Fundamentals

Course Standard

Course Information

Description	Through tasting, the student will develop an appreciation of different types of wine, including varietal characteristics and other components, in order to understand the role of wine in professional food and beverage operations. Students must be 21 years of age.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite   HEM 205 Alcohol Beverage Law

HEM 230 Mixology

Course Standard

Course Information

Description	Create a wide variety of classic and everyday mixed drinks in a standard bar setting. Learn about bar glassware and equipment identification, pouring techniques, common cocktail mixing methods, history of distilled spirits, origin and characteristics of various distilled spirit brands, distillation process, bartenders job description, and responsibilities, cost control, beverage pricing and responsible alcohol service.

Total Credits	4
Total Hours	90

Pre/Corequisites

Prerequisite   HEM 205 Alcohol Beverage Law

HEM 235 Hospitality Management Internship

Course Standard

Course Information

Description	This is a work-based learning course which enables students to develop practical skills, relate theory to practice, and to gain a sound base of industrial experience by

working – on a paid or voluntary basis – from a range of organizations within the hospitality industry. In addition, this course seeks to develop 'employability skills' to assist students in progressing towards a career in hospitality.

Total Credits	4
Total Hours	180

Pre/Corequisites

Prerequisite	HEM 105 Sanitation and Safety
Prerequisite	HEM 110 Hospitality Math
Prerequisite	HEM 115 Introduction to the Hospitality Industry
Prerequisite	HEM 120 Hospitality Service Techniques
Prerequisite	HEM 125 Food & Beverage Management Fundamentals
Prerequisite	HEM 130 Introduction to Lodging Operations
Prerequisite	HEM 135 Hospitality Human Resource Management
Prerequisite	HEM 140 Hospitality Financial Management
Prerequisite	HEM 145 Fundamentals of Excellent Customer Service

HHA 100 Home Health Aide

Course Standard

Course Information

Description	Prepares the certified nurse aide (CNA) to care for clients in community and home settings. Graduates may take the Kansas certification examination to become a home health aide (HHA).

Total Credits	2
Total Hours	30

Pre/Corequisites

Prerequisite	GRA 101 Certified Nurse Aide

HIS 110 United States History to 1877

Course Standard

Course Information

Description	This course traces development of the United States, 1492 to 1876, including English colonization, the American Revolution, formation of the Union, colonization of the West, development of sectionalism, the Civil War, and restoration of home rule in the South. Important political, cultural, economic, and religious/philosophical accomplishments of this period will be examined.

Total Credits	3
Total Hours	45

HIS 120 United States History since 1865

Course Standard

Course Information

Description	This course is designed to provide the student with an introduction to United States history from the end of Reconstruction to the present. This course will survey the important political, cultural, economic, and religious/philosophical accomplishments during this period.

Total Credits	3
Total Hours	45

HIS 130 World History I

Course Standard

Course Information

Description	This course provides an introduction to the birth and development of World History to the mid-16th century. Students will survey the important political, cultural, economic, and religious/ philosophical accomplishments of this period.

Total Credits	3
Total Hours	45

HIS 140 Humanities Prospectus

Course Standard

Course Information

Description	This course combines humanities topics including art, religion, world history and U.S. history with the goal that students gain a greater understanding of how the humanities topics interact and impact the world around them. The course will survey world and United States history, broadly looking at politics, culture, economics, art

and religious/philosophical accomplishments that have shaped our world today.

Art – gain an appreciation for art, studying the concepts and artist's work so that students improve one's judgment and ability to understand art critically.

Religion – Introduction to Buddhism, Christianity, Judaism, and Islam. Students will examine the basic components of each faith, as well as the historical and cultural impact of each religion

World and U.S. History – surveying world and U.S. history in the areas of politics, culture, economics, and religious/philosophical accomplishments, covering the period from the Renaissance to the 20th century.

Total Credits	3
Total Hours	45

IND 105 Industrial Automation Test Equipment

Course Standard

Course Information

Description	This course is designed to provide students with the necessary skills to operate the test equipment used in the Industrial Automation program. In a hands on environment students will learn the function and operating processes of each piece of equipment. Topics will include digital multi meters, oscilloscopes, and function generators.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite   AVC 110 OSHA Safety OR IND 100 Industrial Safety Procedures/OSHA 10

IND 106 Direct & Alternating Current

Course Standard

Course Information

Description	This course introduces direct current (DC) concepts and applications and the theory and application of varying sense wave voltages and current. Topics include: electrical principles and laws; batteries; DC test equipment; series, parallel and simple combination circuits; magnetism, AC wave generation, AC test equipment, inductance, capacitance, and basic transformers, and laboratory procedures and safety practices.

Total Credits 4

Total Hours 90

Pre/Corequisites

Prerequisite   AVC 110 Safety/OSHA

IND 109 Basic Industrial Programmable Logic Controls

Course Standard

Course Information

Description   This course introduces operational theory, systems terminology, PLC installations, and programming procedures for programmable logic controls. Emphasis is placed on PLC programming, connections, installations, and start-up procedures. Topics include: PLC hardware and software, PLC functions and terminology, PLC installation and set up, PLC programming basics, relay logic instructions, timers and counters, connecting field devices to I/O cards, and PLC safety procedures.

Total Credits 4

Total Hours 105

IND 111 Foundations of Manufacturing

Course Standard

Course Information

Description   This course is designed to teach students the non-technical side of manufacturing that helps them to know where they fit into the value chain and how their performance affects the company, and to understand how and why decisions are made. Soft skills, proper selection and use of maintenance tools, safety, differences in maintenance practices will be introduced.

Total Credits 3

Total Hours 75

IND 116 Advanced Motor Controls

Course Standard

Course Information

Description   This course provides instruction in two-wire motor control circuits using relays, contractors, and motor starts with application sending devices. Topics include: wiring limit switches, wiring pressure switches, wiring float switches, wiring temperature switches, wiring proximity switches, wiring photo switches, sequencing circuits, reduced voltage starting, motor control centers, and troubleshooting.

Total Credits   3

Total Hours   60

IND 117 Variable Speed Motor Control

Course Standard

Course Information

Description   This course provides instruction in the fundamentals of variable speed drives, industrial motors, and other applications of variable speed drives. Topics include: fundamentals of variable speed control, AC frequency drives, DC variable speed drives, installation procedures, and ranges.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   IND 116 Advanced Motor Controls

IND 121 Mechanical Systems Reliability

Course Standard

Course Information

Description   This course provides understanding of mechanical energy transmission concepts along with lab experience to operate, install, analyze performance, and design mechanical drive systems using right angle gears, bearings and couplings. Students learn how to setup and operate laser shaft alignment and apply vibration analysis to various power transmission systems.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   IND 117 Variable Speed Motor Control

IND 123 Industrial Fluid Power

Course Standard

Course Information

Description   This course provides instruction in fundamental concepts and theories for safely operating hydraulic components and pneumatic systems and industrial pumps and piping systems. Topics include: hydraulic theory, suction side of pumps, actuators, valves, pumps/motors, accumulators, symbols and circuitry, fluids, filters, pneumatic theory, compressors, pneumatic valves, air motors and cylinders, pump identification; pump operation; pump installation, maintenance, and troubleshooting; piping systems; and installation of piping systems.

Total Credits   4

Total Hours   105

Pre/Corequisites

Prerequisite   IND 130 Mechanical Systems

IND 130 Mechanical Systems

Course Standard

Course Information

Description   This course provides instruction in basic physics concepts applicable to mechanics of industrial production equipment, teaches basic industrial application of mechanical principles with emphasis on power transmission and specific mechanical components. Students will also design basic mechanical transmission systems using chains, v-belts and gears.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   IND 121 Mechanical Systems Reliability

IND 131 Industrial Programmable Logic Controls (PLC)

Course Standard

Course Information

Description	This course examines types, installation and troubleshooting of programmable logic controllers (PLC). Hardware and programming aspects, as well as ladder logic symbols and operations necessary to develop a PLC program are covered in this course.

Total Credits	3

Total Hours	90

Pre/Corequisites

Prerequisite	IND109 Basic Industrial Programmable Logic Controls

IND 132 Industrial Process Control

Course Standard

Course Information

Description	This course provides understanding of different types of process control systems like temperature, flow and level control. The course includes process control principles, thermocouples, RTD's, temperature measurement devices, ON/Off temperature controlled, programmable process heat controllers, transmitters, process loop test and operate system found in industrial application.

Total Credits	3

Total Hours	60

Pre/Corequisites

Prerequisite	IND 131 Industrial Programmable Logic Controls

IND 139 CNC Operation for Maintenance Applications

Course Standard

Course Information

Description   This course will train the student in the basic manual operation of CNC Machine tools. It will cover the required programming codes to move the machine using Manual Data Input (MDI), as well as hand and jog functions. It is designed to teach the student how to manipulate the machine to perform maintenance, troubleshooting, and repair operations.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   IND 123 Industrial Fluid Power

Prerequisite   IND 131 Industrial Programmable Logic Controls (PLC)

IND 145 Advanced Technologies in Predictive Maintenance

Course Standard

Course Information

Description   Addresses regular routine predictive, testing, checking for wear and tear and eventually replacing components to avoid breakdown. Introduces students to the various types and styles of predictive maintenance components, principles, and practices used in industrial applications.

Total Credits   3

Total Hours   75

INF 105 A+ Certification - Essentials

Course Standard

Course Information

Description   This course will prepare the student for entry level work in the Information Technology career field. Successful students will have the skills necessary for installing, maintaining, configuring, and upgrading PC (Personal Computer) workstations. Students will utilize troubleshooting techniques and tools to effectively and efficiently resolve PC, OS, and network connectivity issues and implement security practices. Job titles in some organizations that would describe the role of this individual may be: Enterprise technician, IT administrator, field service

technician, PC or support technician etc.

Total Credits   3

Total Hours   75

INF 110 A+ Certification - Application

Course Standard

Course Information

Description   This course will prepare the student for entry level work in the Information Technology career field. Successful students will have the knowledge required to understand the fundamentals of computer technology, networking and security, and will have the skills required to identify hardware, peripheral, networking, and security components. Upon completion of the course students will understand the basic functionality of the operating system and basic troubleshooting methodology, practice proper safety procedures, and will effectively interact with customers and peers.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF105 A+ Certification -Essentials

INF 112 Network Essentials

Course Standard

Course Information

Description   This course teaches the fundamentals of networking. It covers how devices communicate on a network, network addressing and network services, how to build a home network and configure basic security, the basics of configuring Cisco devices, and testing and troubleshooting network problems.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   INF 110 A+ Certification - Application

INF 113 Introduction to Programming

Course Standard

Course Information

Description	Programmers are in higher demand today than ever before. Get the essential skills and tools to become a successful software engineer and learn the fundamental concepts and practices that are critical to the task of coding—no matter what language you choose. In this course, students will develop the knowledge to begin programming in any language, connect programming theory to practice in real-life scenarios, and apply best practices from experts in the field.
Total Credits	3
Total Hours	60

INF 115 Network+ Part I

Course Standard

Course Information

Description	This course prepares a student for entry level installing, maintaining, troubleshooting, and repairing a computer network.
Total Credits	3
Total Hours	60

INF 116 Network+ Part II

Course Standard

Course Information

Description	This is a continuation of INF 115 Networking Part 1. This class prepares students to work with network operating systems and network design issues.
Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite   INF115 Network+ Part I

INF 118 Cloud Fundamentals

Course Standard

Course Information

Description   This course covers cloud services from a business perspective. This includes the business value of cloud computing, cloud types, steps to a successful adoption of the cloud, impact and changes on IT service management, as well as risks and consequences.

Total Credits   3

Total Hours   45

INF 120 Security+

Course Standard

Course Information

Description   This course prepares students for the CompTIA Security+ Certification exam. CompTIA Security+ is a global certification that validates the baseline skills needed to perform core security functions and pursue an IT security career. The Security+ course focuses on the latest trends and techniques in risk management, risk mitigation, threat management, and intrusion detection. The Security+ course provides students with the knowledge and skills required to assess an enterprise environment's security posture, recommend and implement appropriate security solutions, and monitor and secure hybrid environments, including cloud, mobile, and IoT. In this course, students will learn to operate with an awareness of applicable laws and policies, including principles of governance, risk management, and compliance, while identifying, analyzing, and responding to security events and incidents. This course prepares the student for a System Administrator, Network Administrator, Security Administrator, Junior IT Auditor/Penetration Tester, Security Specialist, Security Consultant or Security Engineer.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   INF 116 Network+ Part II

INF 121 Object-Oriented Programming (JavaScript)

Course Standard

Course Information

Description   JavaScript is a scripting language of the web. As the web evolves from a static to a dynamic environment, technology focus is shifting from static markup and styling— frequently handled by content management systems or automated scripts—to dynamic interfaces and advanced interaction. Once seen as optional, JavaScript is now becoming an integral part of the web, infusing every layer with its script. Object-Oriented Programming (OOP) refers to using self-contained pieces of code to

develop applications. IT professionals call these self-contained pieces of code objects, better known as Classes in most OOP programming languages and Functions in JavaScript. IT professionals use objects as building blocks for our applications. Building applications with objects allows us to adopt some valuable techniques. In this course students will build their understanding of JavaScript piece by piece, from core principles like variables, data types, conditionals, and functions through advanced topics including loops, closures, DOM printing, and learn Inheritance and Encapsulation since only these two concepts apply to OOP in JavaScript; in JavaScript objects can encapsulate functionalities and inherit methods and properties from other objects.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite   INF 113 Introduction to Programming

INF 122 Introduction to Web Development

Course Standard

Course Information

Description   This course introduces students to basic web design using HTML (Hypertext Markup Language), CSS (Cascading Style Sheets), JavaScript, and PHP. Throughout the course students are introduced to planning and designing effective websites; implementing web pages by writing code; producing a functional, multi-page website; and navigating how to choose and set up a server to host their sites on. The course does not require any prior knowledge of coding or web design.

Total Credits	3
Total Hours	75

INF 123 DevNet I

Course Standard

Course Information

Description   The DevNet I course introduces the methodologies and tools of modern software development, applied to the IT and Network operations. It covers a 360 view of the domain including microservices, testing, containers, and DevOps, as well as securely automating infrastructures with Application Programming Interfaces (APIs). Students completing this course, gain practical, relevant, hands-on lab experience, including programming in Python, using GIT and common data formats (JSON, XML and YAML), deploying applications as containers, using Continuous Integration/Continuous Deployment (CI/CD) pipelines and automating infrastructure

using code.

Total Credits	3
Total Hours	60

Pre/Corequisites

Prerequisite   INF 113 Introduction to Programming

INF 126 Test Driven Development (JavaScript)
Course Standard

Course Information

Description   Programmers shouldn't have to guess whether the software is working correctly. They should be able to prove it, every step of the way. A formal test-driven development (TDD) process allows programmers to build testing into their daily routine. They can run tests many times a day, getting instant feedback on the quality of the code. This course explains how to adopt a TDD mindset and process—vital skills for all modern software developers. Find out what makes a good test, why programmers should be more interested in failure than success, and how to measure and repeatedly run tests. Together students will explore the jargon: test suites, test harnesses, mock and stub objects, and more, how TDD is used in the most common programming languages, TDD environments, and what tools/frameworks exist to help programmers succeed.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite   INF 121 Object-Oriented Programming

INF 127 Linux+ Part I
Course Standard

Course Information

Description   This course is the first of two courses to help prepare the student for the CompTIA Linux+ Certification exam. The first course covers the history of Linux, basics of how to install Linux, navigate and manage the file system, how to navigate the command line, and writing scripts in the BASH shell. The new CompTIA Linux+ certification is for the IT pro who will use Linux to manage everything from cars and smartphones to servers and supercomputers, as a vast number of enterprises use Linux in cloud, cybersecurity, mobile and web administration applications. The course prepares IT professionals with hands-on experience configuring, monitoring, and supporting servers running the Linux operating system. The course focuses on security, kernel modules, storage and virtualization, device management at an enterprise level, git &

automation, networking & firewalls, server side and command line, server (vs. client-based) coverage, troubleshooting and security-enhanced Linux (SELinux).

Total Credits	3
Total Hours	60

Pre/Corequisites

Prerequisite	INF 110 A+ Certification - Application
Prerequisite	INF 116 Network+ Part II

INF 128 Linux+ Part II

Course Standard

Course Information

Description   This is the second course in a series of two courses to help prepare the student for the CompTIA Linux+ Certification exam. The second course covers how to install a Graphic User Interface (GUI), X Windows, how to manage Linux processes, printer administration, how to compress and uncompress files, how to configure a network services and how to troubleshoot common Linux problems. The new CompTIA Linux+ is for the IT pro who will use Linux to manage everything from cars and smartphones to servers and supercomputers, as a vast number of enterprises use Linux in cloud, cybersecurity, mobile and web administration applications. The course prepares IT professionals with hands-on experience configuring, monitoring, and supporting servers running the Linux operating system. The course focuses on security, kernel modules, storage and virtualization, device management at an enterprise level, git & automation, networking & firewalls, server side and command line, server (vs. client-based) coverage, troubleshooting and security-enhanced Linux (SELinux).

Total Credits	3
Total Hours	60

Pre/Corequisites

Prerequisite	INF 110 A+ Certification- Application
Prerequisite	INF 116 Network + Part II
Prerequisite	INF 127 Linux+ Part I

INF 129 Programming Foundations (Swift iOS)

Course Standard

Course Information

Description	Programming Foundations (Swift iOS) will introduce students to the basics of programming and app development using Apple's native language, Swift. This course will provide students with a solid foundation in programming fundamentals that can be carried over into other Object Oriented Programming (OOP) languages such as Python, C#, and JavaScript.

Total Credits 3

Total Hours 60

INF 131 Continuous Integration Continuous Deployment - CICD

Course Standard

Course Information

Description	Continuous delivery (CD) answers two difficult questions: "How do we release software more quickly in response to user demand?" and "How do we release high-quality software reliably?" Using special practices and tools, teams can address both concerns. In this course, learn about continuous integration and continuous delivery (CI/CD), and see how these concepts work in practice by constructing your own build pipeline. Throughout the course, students will discuss elements of the pipeline as they show how to take an app written in the Go programming language from development to production. Students will walk through version control, building artifacts, unit testing, and deployment, demonstrating common practices and tools along the way.

Total Credits 3

Total Hours 45

Pre/Corequisites

Prerequisite   INF 121 Object-Oriented Programming (JavaScript) Or

Prerequisite   INF XXX Object- Oriented Programming (Python)

INF 134 Server

Course Standard

Course Information

Description   This course prepares students for the CompTIA Server+ Certification exam. This course is vendor neutral and works with Microsoft Windows Server Operating Systems, Linux Open Source Operating Systems, and VMware virtualization products. This course covers the basics from how the hardware and operating systems works to more advanced concepts of RAID, virtualization, security, network storage, building domain controllers for an enterprise environment, managing users, groups, and permissions and troubleshooting. The course prepares students to work in a wide variety of jobs such as System Administers, Webserver administrators, virtualization, and cloud administrator roles.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   INF 110 A+ Certification-Application

INF 136   Introduction to PowerShell

Course Standard

Course Information

Description   Introduction to PowerShell provides an overview and application of the next generation command shell developed by Microsoft. Students learn to interact with Windows PowerShell from the command line. This course prepares students to demonstrate an understanding and application of the fundamentals of how to develop and execute PowerShell scripts, and how to become an effective programmer in the PowerShell environment.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   INF 116 Network + Part II

INF 137   C# Programming Language

Course Standard

Course Information

Description   C# is one of the most widely used general-purpose programming languages. As a result, C# is often developers' primary choice for creating a wide range of desktop, cloud, and mobile applications. This course will take students through C# from the ground up in a step-by-step manner. By the end of this course, students will be well

versed with the essentials of C# language and be ready to start creating apps with it.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 113 Introduction to Programming

INF 138 Object-Oriented Programming (Python)

Course Standard

Course Information

Description   Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity, object oriented application, and code reuse. Object Oriented Programming (OOP) refers to using self-contained pieces of code to develop applications. IT Professionals call these self-contained pieces of code objects, better known as Classes in Python. IT Professionals use objects as building blocks for scripting and applications which allows us to adopt some valuable techniques. In this course students will build their understanding of Python piece by piece starting with the basics and work into algorithms, standard libraries, GUI development, and generators. At the end of this course students will be fully proficient in python having covered advanced python development as well as parallel and concurrent programming.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 113 Introduction to Programming

INF 141 Test Driven Development (Python)

Course Standard

Course Information

Description   Programmers shouldn't have to guess whether software is working correctly. They should be able to prove it, every step of the way. A formal test-driven development

(TDD) process allows programmers to build testing into their daily routine. Programmers can run tests many times a day, getting instant feedback on the quality of their code. This course explains how to adopt a TDD mindset and process—vital skills for all modern software developers. Find out what makes a good test, why programmers should be more interested in failure than success, and how to measure and repeatedly run tests. In this course students will get an overview of both unit testing and TDD, why both are crucial for developers, how to set up a development environment for TDD, and go into detail with the pytest unit-testing framework. In addition too, students will learn best practices and develop test cases in order to master TDD in Python.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	INF 138 Object Oriented Programming (Python) or
Prerequisite	INF 121 Object-Oriented Programming (JavaScript)

INF 142 Introduction to Storage Solutions

Course Standard

Course Information

Description	This course prepares student to maintain and optimize cloud infrastructure. Students will develop the diversity of knowledge, skill, and abilities required of system administrators to effectively perform in data center jobs. This class is vendor neutral covering Amazon AWS, Microsoft Azure, and Google Cloud Services. It prepares students to work in a wide variety of jobs such as System Administers, Webserver administrators, virtualization, and cloud administrator roles.

Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite	INF 110 A+ Certification - Application

INF 143 Web Application Development I (HTML/CSS)

Course Standard

Course Information

Description	CSS is a stylesheet language that allows you to control the appearance of your webpages, and HTML is the programming language that powers the web. Like any language, once you master it, you can begin to create your own content, whether

that's simple websites or complex web applications. In this hands-on course, we will take an in-depth look at the syntax of HTML and best practices for writing with CSS and JavaScript to create rich, engaging user experiences. Plus, at the end of the course, you'll walk away with an actual project—an online résumé page.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	INF 126 Test-Driven Development (JavaScript) OR
Prerequisite	INF 122 Introduction to Web Development

INF 144 Virtualization

Course Standard

Course Information

Description	In this course students will learn how to implement and support virtualization of clients of servers in a networked computing environment. Through the course curriculum student will explore installation, configuration, and management of computer virtualization workstation and servers.

Total Credits	3
Total Hours	60

Pre/Corequisites

Prerequisite	INF 134 Server

INF 146 Powershell II

Course Standard

Course Information

Description	In this course, students will gain the fundamental knowledge and skills to use Windows PowerShell for automating the administration of Windows-based servers. Students will focus on primary Windows PowerShell command line features and techniques. Additionally, students will learn to execute and monitor scripts more efficiently with more robust session connectivity, workflow capabilities, improved job scheduling, and Windows PowerShell Web Access.

Total Credits	3

Total Hours 75

INF 147 Website Production & Management (Word Press)

Course Standard

Course Information

Description	This course is designed to teach students the necessary skills to build, customize, manage and promote a business website using the content management system WordPress. In this project-based course, students will apply classroom knowledge and skills to successfully launch a site on a live web server.

Total Credits 3

Total Hours 60

INF 148 Computer Support Specialist Capstone Experience

Course Standard

Course Information

Description	The capstone course is designed to serve as a summative evaluation of the student's skills and abilities. The student is given the opportunity to demonstrate integrated knowledge and growth in the area of computer support. The course assesses student's cognitive, affective, and psychomotor learning in the program and offers the opportunity to apply employability skills (soft skills) relevant to customer service and work ethic. The course requires the student to design and implement a unique project that incorporates all of the program level outcomes. Additionally, the student will present their project to representatives from WATC faculty in the technical program. The project itself can serve as a portfolio artifact to present to potential employers.

Total Credits 1

Total Hours 30

Pre/Corequisites

Prerequisite   INF 142 Introduction to Storage Solutions

INF 152 Web Application Development II (REACT)

Course Standard

Course Information

Description	React is a JavaScript library for building user interfaces to fetch rapidly changing data that needs to be recorded and is maintained by Facebook for the development of single-page or mobile applications. The effectiveness of React.js stands out. It relies on reusable components, not templates, for UI development, allowing developers to render views where data changes over time. React applications are more scalable, maintainable, and makes developers more efficient. In this hands-on course, you will learn React.js and grow your skills through several browser-based projects leading to the completion of several web applications.

Total Credits　3

Total Hours　45

Pre/Corequisites

Prerequisite　　　INF 143 Web Application Development I (HTML/CSS)

INF 153 Multi-Cloud Administration

Course Standard

Course Information

Description	Cloud administrators must have an understanding of cloud services and architecture, as well as the top cloud platforms and tools. In this hands-on course, students will explore the top cloud platforms, AWS, Azure, and Google Cloud, as well as best practices in cloud security, operations, and services in order to obtain the skills needed to become a successful multi-cloud administrator.

Total Credits　3

Total Hours　45

Pre/Corequisites

Prerequisite　　　INF 118 Cloud Fundamentals

INF 155 Digital Forensics

Course Standard

Course Information

Description   Digital forensics is a branch of forensic science surrounding the recovery and investigation of material found in digital devices, often in relation to computer crime. This course introduces students to the basic concepts associated with digital forensics. Topics will include forensic processes, forensic tools, and digital evidence controls.

Total Credits   3

Total Hours   60

Pre/Corequisites

Corequisite   INF 110 A+ Certification - Application

INF 156 Advanced Web Development (PHP)

Course Standard

Course Information

Description   This course is designed to provide students with advanced skills in the area of Web Development. In this hands on class students will have the opportunity to apply HTLM5, CSS3, and jQuery with PHP concepts to lab projects. Topics will include PHP programming , basic database functionality, and building dynamic applications. .

Total Credits   3

Total Hours   60

INF 157 Cyber Law and Ethics

Course Standard

Course Information

Description	Provide students with an overview of the common laws and ethical issues associated with information technology. The course uses a case study approach to encourage the student in developing analytical, problem-solving, critical thinking and decision-making skills.

Total Credits	3
Total Hours	45

INF 158 Multi-Cloud Development Services

Course Standard

Course Information

Description	Cloud computing impacts all careers, and an awareness of the opportunities associated with this emerging field is critical. Developers need to understand what it means to develop on and migrate to the cloud—and comprehend the overall landscape before diving into the platform. In this hands-on course, you will get a high-level overview just for developers, focusing on the features and services in a multi-cloud development environment using Google Cloud, Amazon Web Services, and Microsoft Azure.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	INF 118 Cloud Fundamentals
Prerequisite	INF 121 Object- Oriented Programming(JavaScript) or
Prerequisite	INF 138 Object-Oriented Programming(Python)

INF 160 Server Security

Course Standard

Course Information

Description   Server Security is designed to provide the students with concepts to develop, deploy, and maintain reliable and secure servers. Topics will include SSH keys, Firewalls, PKI systems, SSL and TLS encryption, service and file auditing.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   INF 134 Server+

Prerequisite   INF 127 Linux Part I

INF 161 Introduction to Networks

Course Standard

Course Information

Description   Begin preparing for a networking career with this introduction to how networks operate. This first course in the 3-course CCNA series introduces architectures, models, protocols, and networking elements – functions needed to support the operations and priorities of Fortune 500 companies and small innovative retailers. Students will have the chance to build simple local area networks (LANs). Upon completion of the course students will have a working knowledge of IP addressing schemes, foundational network security, and be able to perform basic configurations for routers and switches. Introduction to Networks (ITN) covers the architecture, structure, functions and components of the Internet and other computer networks. Students achieve a basic understanding of how networks operate and how to build simple local area networks (LAN), perform basic configurations for routers and switches, and implement Internet Protocol (IP).

Total Credits   3

Total Hours   60

INF 164 Switching, Routing, and Wireless Essentials

Course Standard

Course Information

Description   Delve further into the world of networking with the second CCNA course in a 3-course series. This course focuses on switching technologies and router operations that support small-to-medium business networks, including wireless local area networks (WLAN) and security concepts. Students will perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN. CCNAv7: Switching, Routing, and Wireless Essentials (SRWE) covers the architecture, components, and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts. Students learn how to configure and troubleshoot routers and switches for advanced functionality using security best practices and resolve common issues with protocols in both IPv4 and IPv6 networks.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   INF 161 Introduction to Networks

INF 165 Advanced Cyber Security

Course Standard

Course Information

Description   Advanced Cyber Security is designed to enhance students' knowledge of security practices. The course will cover a range of topics that are vital for securing modern enterprises. Topics will include plans and policies, enterprise roles, security metrics, risk management, standards and regulations, physical security and business endurance.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   INF 120 Security+

INF 166 Cloud Application Development I (REACT on AWS)

Course Standard

Course Information

Description   Traditionally, companies have built and deployed web applications where they have some degree of control typically running on a server and are responsible for provisioning and managing the resources for it. The issues associated with this process, including server uptime, maintenance costs, managing security, and scalability is driving the realization that it is more competitive to run applications on the cloud. In this hands-on course, designed for developers that would like to build full-stack applications on Amazon Web Services, students will make a full-stack React application by creating a note-taking app from scratch. By guiding students, step-by-step through both the frontend and the backend, students will cover all the different aspects of building their first full-stack React app on the cloud.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 152 Web Application Development - II
Prerequisite   INF 118 Cloud Fundamentals

INF 167 Enterprise Networking, Security, and Automation

Course Standard

Course Information

Description   Large enterprises depend heavily on the smooth operation of their network infrastructures. The third course in the 3-course CCNA series describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. It covers wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access along with the introduction of software-defined networking, virtualization, and automation concepts that support the digitalization of networks. CCNAv7: Enterprise Networking, Security, and Automation (ENSA) describes the architecture, components, operations, and security to scale for large, complex networks, including wide area network (WAN) technologies. The course emphasizes network security concepts and introduces network virtualization and automation. Students learn how to configure, troubleshoot, and secure enterprise network devices and understand how application programming interfaces (API) and configuration management tools enable network automation.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   INF 164 Switching, Routing, and Wireless Essentials

INF 168 AWS Cloud Practitioner

Course Standard

Course Information

Description   To date, when it comes to market share Amazon Web Services currently holds 47.8%, followed by Microsoft Azure at 15.5%, Alibaba Cloud at 7.7%, Google at 4%, and IMB at 1.8%. Get up to speed with one of the most popular and powerful cloud solutions on the market—Amazon Web Services (AWS). In this hands-on course, students will deepen their understanding of Amazon Web Services (AWS) through enterprise security, high availability, controlling cost, and preparing an AWS solution.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 153 Multi-Cloud Administration Or

Prerequisite   INF 118 Cloud Fundamentals

INF 169 Machine Learning and AI Foundations with Predictive Analytics

Course Standard

Course Information

Description   There is a lot to learn to stay on top of a rapidly expanding universe of AI and machine learning. In addition, predictive analytics is one of the richest disciplines within the realm of data science; together artificial intelligence, machine learning, and predictive analytics form a very lucrative skillset for an ever-increasing competitive market. In this hands-on course, students will be exposed to a healthy range of topics to learn and advance their skillset in AI, ML, and data science. In addition too, students will learn the tools and techniques for using data to predict future outcomes in order to get up to date with the latest advancements

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 138 Object-Oriented Programming (Python)

INF 170 Cloud Application Development II (Serverless REACT on AWS)

Course Standard

Course Information

Description   Traditionally companies have built and deployed web applications where they have some degree of control typically running on a server and are responsible for provisioning and managing the resources for it. There are a few issues with this be it server uptime, maintenance costs, managing security, and scalability. It is far more competitive now to run applications on the cloud. Serverless computing (or serverless for short), is an execution model where the cloud provider (AWS, Azure, or Google Cloud) is responsible for executing a piece of code by dynamically allocating the resources. And only charging for the amount of resources used to run the code. The code that is sent to the cloud provider for execution is usually in the form of a function. Hence serverless is sometimes referred to as "Functions as a Service" or "FaaS". This hands-on course is meant for developers that would like to build full-stack serverless applications. By guiding students step-by-step through both the frontend and the backend they will cover all the different aspects of building their first full automated full-stack serverless React app on the cloud.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 166 Cloud Application Development I

INF 174 Information Technology Capstone

Course Standard

Course Information

Description   In this course students, will have the opportunity to link classroom/lab theory with a capstone learning opportunity. Through hands on application, reflection and evaluations, students will demonstrate integrated knowledge and growth in the field of information technology. Students will produce a critical reflection on their capstone experience demonstrating how they have addressed specific learning goals.

Total Credits   3

Total Hours   135

INF 175 Information Technology Internship

Course Standard

Course Information

Description   In this course, students will have the opportunity to link classroom/lab theory with an experimental learning opportunity. Through direct observation, reflection and evaluation, students gain an understanding of the internship site's work, mission, and customers, how these relate to their program of study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.

Total Credits   3

Total Hours   135

Pre/Corequisites

Corequisite   INF 120 Security +

INF 177 AWS Solutions Architect Associate

Course Standard

Course Information

Description   AWS certification is one of the most in-demand in the market, as it allows students to demonstrate proficiency in working with AWS cloud services. This hands-on course provides IT professionals who have an existing foundational knowledge of the AWS platform to learn the skills they need to prepare for the AWS Certified Solutions Architect (Associate) exam. By completing this course students will be thoroughly prepared to lock down their AWS skills for the AWS Certified Solutions Architect – Associate (SAA-C01) exam.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 168 AWS Cloud Practitioner

INF 180 Advanced Network Security

Course Standard

Course Information

Description   Advanced Network Security is designed to provide the student advanced concepts in network security including defending the network.   Topics will include configuring network appliances, defending against unauthorized access, misuse, modification, or denial of network resources.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   INF 165 Advanced Cyber Security

INF 182 Microsoft Azure Administrator

Course Standard

Course Information

Description   Microsoft Azure is one of the leading enterprise-grade cloud computing platforms. In this hands-on course, students will be introduced to cloud computing focusing on various Azure technologies designed to support and protect companies at scale. As a more efficient alternative to traditional on-premise IT infrastructure, through this course, students will learn how to build a base of operations with Azure resource groups, configure networking, provision storage, manage active directory, implement security, govern identity and access management, and much more.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 153 Multi-Cloud Administration

INF 185 Virtual Private Cloud Administration

Course Standard

Course Information

Description	Most leading private clouds provide similar features. So, how can IT professionals select the right solution with intent to scale for an organization? Through this hands-on course, students will examine industry-leading private cloud platforms and compare the services offered. Learn the fundamentals of cloud computing using a private cloud, consider reasons why you might choose a private cloud solution for a business, and discover the features and services offered by several providers—from security to integration and compatibility features.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 153 Multi-Cloud Administration

INF 187 Cloud Native Infrastructure (Kubernetes)

Course Standard

Course Information

Description	Container technology caught the public's attention with the introduction of Docker in 2013. The efficiency and cost benefits containerization can offer quickly made it one of the hottest topics in cloud computing. Shortly after Dockers' release, there has been a flood of new container management platforms, aiming to reduce the complexity of managing containerized applications. One of these platforms, the open-source project Kubernetes created by Google in 2015, is by now the de facto standard for container management. In this hands-on course, students will learn the ins and outs of Kubernetes, how it automates deploying, scaling and managing containerized applications on a group (cluster) of (bare metal or virtual) servers.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 153 Multi-Cloud Administration

INF 188 Cloud Data and DevOps Specialist (AWS)

Course Standard

Course Information

Description	Amazon Web Services (AWS) is one of the most widely used cloud platforms and the go-to for many organizations looking to reduce costs by adopting a cloud

infrastructure strategy. In this hands-on course, students will gain a comprehensive, cohesive skill for data admins, engineers, and DevOps specialists who will use AWS with data science and business analytics teams. Topics include cloud concepts, best practices, resilient infrastructure, elasticity, automation, cost optimization, server-based architectures, data science, metrics, and much more.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 118 Cloud Fundamentals

INF 191 Microsoft Enterprise O365 Administration

Course Standard

Course Information

Description   Microsoft 365 offers enterprises a complete business solution around cloud-based office services, applications, Windows 10, and mobility and security services. In this hands-on course, students will dive into each Microsoft 365 product, providing IT professionals with the guidance they need to successfully implement and manage solutions for the modern workplace.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 153 Multi-Cloud Administration

INF 193 Cloud DevOps Engineer I

Course Standard

Course Information

Description   DevOps is not a framework or a workflow. It's a culture that is overtaking the business world. DevOps ensures collaboration and communication between software engineers (Dev) and IT operations (Ops). With DevOps, changes make it to production faster, resources are easier to share, and large-scale systems are easier to manage and maintain. In this part-one course, students will learn a holistic overview of the DevOps movement, focusing on the core value of CAMS (culture, automation, measurement, and sharing) in addition to both agile and lean project

management principles and how old-school principles like ITIL, ITSM, and SDLC fit within DevOps.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 168 AWS Cloud Practitioner

Prerequisite   INF 188 Cloud Data and DevOps Specialist (AWS)

INF 196 Cloud DevOps Engineer II

Course Standard

Course Information

Description   DevOps is not a framework or a workflow. It's a culture that is overtaking the business world. DevOps ensures collaboration and communication between software engineers (Dev) and IT operations (Ops). With DevOps, changes make it to production faster, resources are easier to share, and large-scale systems are easier to manage and maintain. In this part-two course, students will learn the various methodologies and tools an organization can adopt to transition into DevOps, including infrastructure automation, software version control, container management via Kubernetes, and much more.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INF 193 Cloud DevOps Engineer I

INT 101 Interior Design Fundamentals

Course Standard

Course Information

Description   This course emphasizes the fundamentals of design by exploring design elements and principles, traffic-flow patterns, color rendering, space planning, and problem solving skills for interior design. Inclusive in this course are research techniques, creating illustration boards, and honing presentation skills.

Total Credits   3

Total Hours   75

INT 105 Blueprint Reading for Interior Design

Course Standard

Course Information

Description   This is an introduction to blueprints for interior construction and service systems. Students will learn basic mechanical drawings, architectural drawings, and symbol and abbreviation identification used in blueprints. By using an architectural scale students will learn to draft floor plans. Construction documents, time management, and communication with architects and contractors are included in this course.

Total Credits   3

Total Hours   75

INT 110 Color Theory

Course Standard

Course Information

Description   This course introduces the use of color for interior design. Emphasis is on color theory, psychology of color and how it affects the brain and moods, and application of color in interior environments and lighting conditions. Included is the vocabulary of color, color temperatures, the principles of the color wheel and how to use it. With the use of paint values, tones, and shades are mastered.

Total Credits   3

Total Hours   75

INT 126 Textiles

Course Standard

Course Information

Description   By the end of the semester, each student will know various soft materials and treatments necessary for design of interior spaces, the functions of each, and their appropriate uses. Students should feel confident in researching design products.

Each student will have started a reference library of local and national vendors.

Total Credits   3

Total Hours   75

INT 127 Materials for Interior Environments

Course Standard

Course Information

Description   Explorations of various hard treatments used in design are covered in this course. By the end of the semester, each student will know various hard treatments necessary for design of interior spaces, the functions of each, and their appropriate uses. Accurate specifications of interior materials are emphasized in this course. Students should feel confident in researching design products. Each student will have started a reference library of local and national vendors.

Total Credits   3

Total Hours   75

INT 141 History of Furniture & Architecture

Course Standard

Course Information

Description   This course provides students with the historical foundation of architecture and furniture, furniture styles, accent pieces, and accessories from Egyptian period through Post Modern. Students will learn chronologies, key terms, designer contributions, and ruler influence on furniture and architectural elements in a time line manner. Through hands on experience with furniture and actually creating pieces of "art styled" furnishings they will comprehend what is involved in furniture making.

Total Credits   3

Total Hours   75

INT 155 Lighting Technologies

Course Standard

Course Information

Description   This is an introduction to the basics of lighting technologies used in interior design: color, lighting styles, and lighting fixtures. Students will learn to read lamp indicators, calculate lumens and foot-candles, and determine proper heights and usage for various lighting techniques. An understanding of light analysis, residential and commercial lighting, lighting design, lighting applications, and requirements for various types of lighting are studied. Developments of lighting and electrical layouts on floor plans are inclusive in this course.

Total Credits   3

Total Hours   75

INT 160 Design Studio I

Course Standard

Course Information

Description   This course provides long and short-term projects that address real life design situation. It will develop competencies in solving design problems and teamwork. Technical and conceptual concerns, color theory, lighting technology, scale, materials selection, and creative design articulation through presentation and illustrations are critical elements for this class. Deployment of invoicing techniques, material selection, and working within codes and standards are emphasized.

Total Credits   3

Total Hours   90

Pre/Corequisites

Prerequisite	INT 101 Interior Design Fundamentals
Prerequisite	INT105 Blueprint Reading for Interior Design
Prerequisite	INT 110 Color Theory
Prerequisite	INT 126 Textiles
Prerequisite	INT 141 History of Furniture & Architecture
Prerequisite	INT 155 Lighting Technologies
Prerequisite	INT 166 AutoCAD for Interior Design
Prerequisite	INT 190 Drafting for Interiors

Prerequisite   INT 196 Interior Design Codes and Standards

INT 165 Design Studio II

Course Standard

Course Information

Description   This course provides long and short-term projects that address real life design situation. It will develop competencies in solving design problems and teamwork. Technical and conceptual concerns, color theory, lighting technology, scale, materials selection, and creative design articulation through presentation and illustrations are critical elements for this class. Development of invoicing techniques, material selection, working within codes and standards and working with a budget is emphasized in the course. Students will be working with real time case studies. Students may be invited to participate in events such as The Symphony Show House Design, Judge in the Wichita Area Building Associations Parade of Homes, or shadow designers with a project.

Total Credits   3

Total Hours   90

Pre/Corequisites

Prerequisite   INT 160 Design Studio I

INT 166 AutoCAD for Interior Design

Course Standard

Course Information

Description   This course introduces computer-aided drafting (CAD). AutoCAD is used to set up drawings and construct lines, circles, arcs, other shapes, geometric constructions, and text. This course introduces drafting standards used for drawings with AutoCAD. Included are dimensioning, blocks, elevations, floor plans, section views, external references, construction drawings, standards for symbols and abbreviations, plotting and printing.

Total Credits   5

Total Hours   120

Pre/Corequisites

Prerequisite   INT 105 Blueprint Reading for Interior Design

Prerequisite   INT 190 Drafting for Interiors

INT 168 Basic Chief Architect for Interior Design

Course Standard

Course Information

Description   Students use the computers to learn how to utilize three dimensional software to design houses, residential and commercial spaces. This course provides instruction in how to use the software and draw walls, windows, doors, cabinets, plumbing and electrical fixtures, furniture and accessories.

Total Credits   3

Total Hours   75

Pre/Corequisites

Corequisite   INT 166 AutoCAD for Interior Design

INT 170 Business Practices & Portfolio Development

Course Standard

Course Information

Description   This course covers client contracts, presentation skills, resource development, business forms and legal forms, business management and laws pertaining to interior design. A professional personal portfolio is refined in this class for employment purposes. A professional resume will be included as part of the portfolio package. Students will obtain background knowledge necessary for successful business practices for interior design.

Total Credits   4

Total Hours   90

Pre/Corequisites

Prerequisite   INT 160 Design Studio I

Prerequisite   INF 218 Kitchen & Bath Design

INT 173 Design Studio III

Course Standard

Course Information

Description   This is the third course in the Design Studios series. In this course students will further develop competencies in solving design problems and teamwork. Technical and conceptual concerns, color theory, lighting technology, scale, materials selection, and creative design articulation through presentation and illustrations are critical elements for this class. Development of invoicing techniques, material selection, working within codes and standards and working with a budget is emphasized in the course. Students will be working with real time case studies. Students may be invited to participate in events such as The Symphony Show House Design, Judge in the Wichita Area Building Associations Parade of Homes, or shadow designers with a project.

Total Credits   3

Total Hours   90

Pre/Corequisites

Prerequisite   INT 165 Design Studio II

INT 175 Seminars for Interior Design

Course Standard

Course Information

Description   This course is designed to help the student increase their knowledge concerning professional development though resources and artistic exploration. This course is held outside the classroom in real world settings. Tours of museums, building of architectural interest, and local vendors and showrooms are the target of this course. Students will develop networking skills and create a resource library for future use in the field of interior design.

Total Credits   2

Total Hours   60

INT 190 Drafting for Interiors

Course Standard

Course Information

Description   This course is designed to help the student increase their knowledge concerning drafting blueprints for interior construction and service systems, and emphasizes the development of fundamental drafting techniques. Topics include terminology, care and use of drafting equipment, lettering, line relationships and geometric construction.

Total Credits   3

Total Hours   75

INT 192 Illustration for Interior Design

Course Standard

Course Information

Description   This course is designed to help the student increase their knowledge of the fundamentals of design through the exploration of sketching, hand drawing and drawings in one and two point perspective using a variety of grid layouts, eye-levels, vanishing points, cones of vision, and lighting sources are used.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   INT 190 Drafting for Interiors

INT 193 Rendering for Interior Design

Course Standard

Course Information

Description   This course is designed to help the student increase their knowledge of the fundamentals of design through the exploration perspectives, cones of vision, and lighting sources. Rendering techniques are mastered by employing markers, colored pencils, and graphite. Rendered finishes include, but not limited to, reflective finishes, textures (wood, stones, and other elements), and shadows.

Total Credits   3

Total Hours   75

INT 196 Interior Design Codes & Standards

Course Standard

Course Information

Description   This course is designed to focus on the most current and widely used building codes, fire codes, electrical and plumbing codes as required by the industry. Included are working with code officials, documenting projects both large and small, single-family homes, historical and existing buildings, and new construction.

Total Credits   3

Total Hours   75

INT 216 Kitchen Design

Course Standard

Course Information

Description   This course is designed to help the student develop skills necessary to design kitchen solutions using the National Kitchen and Bath Association (NKBA) standards and guidelines where applicable. Projects will include the complete documentation, specification, and job estimates needed to implement the design.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INT 190 Drafting for Interiors

INT 217 Bath Design

Course Standard

Course Information

Description   This course is designed to help the student develop skills necessary to design bath solutions using the National Kitchen and Bath Association (NKBA) standards and guidelines where applicable. Projects will include the complete documentation, specification, and job estimates needed to implement the design.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   INT 190 Drafting for Interiors

INT 218 Kitchen & Bath Design

Course Standard

Course Information

Description   This course is designed to help the student develop special considerations necessary to design and plan kitchens and baths. Topics include the study of the basic principles of kitchen and bath design, planning, proper function and layout, accurate measuring techniques, specification documentation, theme and historical design. The application of the National Kitchen and Bath Association's Guidelines of Planning Standards and Safety Criteria for residential kitchens and bathrooms, including Universal Design concepts, will be covered. Topics include the use of building codes, safety criteria, universal and accessibility criteria, and ergonomics.

Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite	INT 190 Drafting for Interiors
Prerequisite	INT 105 Blueprint Reading for Interior Design

LEN 100 Lean for Operations

Course Standard

Course Information

Description	This course is designed to familiarize the students with the concepts and practices of Lean Manufacturing as applied in industry today. Students begin with a discussion of Lean Manufacturings' place in the overall process of continuous improvement. Students will then move on to learning to apply basic elements of lean, lean system design, lean tools and measurement methods to industry based scenarios.

Total Credits	3
Total Hours	45

LEN 105 Lean Culture - People Systems

Course Standard

Course Information

Description	This course has been developed to enable the student to understand the differences between the current work cultures and a lean culture. Students will be able to identify the steps and changes necessary to implement lean while changing the culture to ensure the gains from Lean activities will continue.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	LEN100 Lean for Operations

LEN 106 Value Stream Alignment

Course Standard

Course Information

Description   This course is designed to familiarize the students with the process of Value Stream Mapping and how to apply it to improve processes. The class will begin with a description of Value Stream Mapping and how it utilizes material and information flows. Students will learn how to complete a Current State Value Stream Map, evaluate the map and then create a Future State Value Stream Map and Implementation Plan.

Total Credits   3

Total Hours   45

LEN 109 Lean for Engineering

Course Standard

Course Information

Description   This course is designed to familiarize the students with the concepts and practices of Lean Manufacturing as applied in Engineering practices today. Students begin with an overview of Lean Manufacturing and continuous improvement. Students will then learn to apply basic elements of lean and process improvement to Engineering scenarios.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   LEN 100 Lean for Operations

LEN 110 Lean for Services - Offices

Course Standard

Course Information

Description   This course will teach students the basics of both Lean and Six Sigma and how these problem solving methodologies apply to the service organizations. Students completing this course will be better prepared for real business world issues, and have the ability to apply these concepts and tools at a basic level.

Total Credits   3

Total Hours   45

LGM 101 Principles of Logistics and Supply Chain Management

Course Standard

Course Information

Description   Introduction to the field of logistics and supply chain management. Includes development of logistics systems, careers in logistics, distribution planning, supply chain security, and customer service. Also includes roles and functions of: purchasing, inventory control, physical distribution, warehousing, transportation methods, packaging, and customs.

Total Credits   3

Total Hours   45

LGM 102 Inventory Control

Course Standard

Course Information

Description   A study of inventory control concepts and techniques. Includes, cost concepts, determining size and nature of inventory, forecasting, and inventory planning and control. Also includes ordering methods, controlling pilferage, and matching customer demand with supply.

Total Credits   3

Total Hours   45

Pre/Corequisites

| Prerequisite | MTH 020 Math Fundamentals Or |
| Prerequisite | MTH 025 PACER I |

LGM 103 Contracts and Freight Claims

Course Standard

Course Information

Description A study of the considerations involved in the drafting and negotiation of freight and logistics contracts, and of loss avoidance and mitigation in transit. Includes legal and regulatory requirements applicable to contracts for product transportation, and logistics functions and considerations for drafting and negotiating contracts with freight carriers, warehousemen and other logistics service providers. Also includes customer satisfaction, claim preparation, filing procedures, and claim dispute resolution.

Total Credits 3

Total Hours 45

LGM 104 Computerized Logistics

Course Standard

Course Information

Description Analysis of the use of computers in the logistics industry and an introduction to available logistics software. Includes the need for computers, the history and future of computers in the logistics industry, and the impact of computers on customer service. Also includes logistics software availability, selection and implementation, and security measures.

Total Credits 3

Total Hours 45

LGM 105 Warehouse Management

Course Standard

Course Information

Description	Survey of warehouse function, process, organization and operations. Includes analysis of warehouse location, operation, and management. Also includes controls and procedures, financial analysis, security, cargo/materials handling, and productivity.
Total Credits	3
Total Hours	45

LGM 106 Transportation and Traffic Management

Course Standard

Course Information

Description	A study of the domestic freight transportation system. Includes demand for freight movement, laws, regulations, pricing, and policies. Also includes traffic management, customer service, security, and international transportation issues.
Total Credits	3
Total Hours	45

LGM 107 Introduction to Purchasing

Course Standard

Course Information

Description	Survey of basic purchasing functions. Includes establishing requirements and quantities, developing policies and procedures for purchasing, making purchasing decisions, receiving acceptable goods, arranging packaging and shipping, and managing inventory levels.
Total Credits	3
Total Hours	45

LGM 108 International Logistics

Course Standard

Course Information

Description   An introduction to the role of logistics in global business. Includes the economic and service characteristics of international transportation providers, the government's role, documentation and terms of sale used in global business, and the fundamentals of effective export and import management.

Total Credits   3

Total Hours   45

LGM 190 Logistics and Supply Chain Internship

Course Standard

Course Information

Description   Culmination of logistics program. Includes guidelines and procedures for workplace learning, application of learned concepts on the job. Also includes initiation, management, and completion of capstone project. Consent of instructor is required before enrolling in this course. Students must complete 125 hours at a program-approved employer worksite.

Total Credits   3

Total Hours   125

LGM 196 Independent Study in Logistics and Supply Chain Management

Course Standard

Course Information

Description   Independent study projects or applied special interest projects in logistics and supply chain management under the supervision of a faculty member.

Total Credits   3

Total Hours   45

MCD 101 Introduction to CAD I

Course Standard

Course Information

Description   This course introduces computer-aided drafting (CAD) and examines the hardware
                       that makes up a CAD workstation. It also covers the operating system (Microsoft
                       Windows) that enables the equipment to function as a unit. The course shows how to
                       use AutoCAD to set up drawings and construct lines, circles, arcs, other shapes,
                       geometric constructions, and text. Students will use display and editing techniques
                       as well to obtain information about their drawings and work with drawing files. This
                       course also introduces recommended drafting standards for students to use for
                       properly preparing drawings with AutoCAD. This course also examines
                       dimensioning, blocks and attributes, section views, isometric drawings, multiview
                       layouts, annotative objects, external references, and sheet sets. Students will learn
                       how to use AutoCAD to dimension drawings, create section lines and graphic
                       patterns, design symbols and attributes for multiple use, and create sheet sets.
                       Student drawings will be plotted or printed. This course also covers recommended
                       drafting standards and practices for students to use for properly preparing drawings
                       with AutoCAD.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   Blueprint Reading (MMG 113 Print Reading or AVC 112 Blueprint Reading or MCD 104
                      Blueprint Reading for Drafting)

MCD 102 Introduction to CAD II

Course Standard

Course Information

Description   This course is a continuation of Introduction to CAD I. All the skills taught in
                       Introduction to CAD I will be reinforced with projects.

Total Credits   2

Total Hours   60

MCD 104 Blueprint Reading for Drafting

Course Standard

Course Information

Description   This course introduces the basic principles of print reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic prints and visualize the features of a part or system.

Total Credits   2

Total Hours   30

MCD 105 Technical Drafting I

Course Standard

Course Information

Description   Includes instruction in sketching and lettering, use and care of drafting equipment, geometric construction, multi-views, basics of isometrics, oblique projection and a study of drafting technology and ANSI Standards. Students draw introductory drawings to scale.

Total Credits   1

Total Hours   15

Pre/Corequisites

Corequisite   AVC 112 Blueprint Reading

MCD 106 Precision Measuring

Course Standard

Course Information

Description This course is designed to assist multiple technical training disciplines with the proper operation, calibration, and measuring technique's required for utilizing precision measurement equipment effectively. Both SAE and metric measuring instruments will be covered; including steel rules, feeler gauges, precision straight edge, calipers, inside and outside micrometers, angle measurement, small hole gauges, telescoping gauges and dial indicators.

Total Credits 2

Total Hours 30

Pre/Corequisites

Prerequisite   MCD 104 Blueprint Reading for Drafting Or AVC 112 Blueprint Reading or MMG 113 Print Reading or MNF 113 Blueprint Basics For Manufacturing

MCD 110 Principles of Tool Design

Course Standard

Course Information

Description Provides an understanding of the general methods of tool design with emphasis on jigs and fixtures. Instruction and projects enable students to develop ideas into practical specifications for modern manufacturing methods.

Total Credits 2

Total Hours 45

Pre/Corequisites

Prerequisite   MCD 124 Advanced AutoCad or departmental approval

MCD 112 Industrial Materials & Processes

Course Standard

Course Information

Description   Includes instruction in materials, measurement, specifications, design principles, hardware and fasteners, vocabulary, machine fabrication, Geometric Dimensioning and Tolerance (GD&T), Machinery's Handbook, surface finishes and an understanding of the fabrication practices used in manufacturing and construction.

Total Credits   2

Total Hours   60

Pre/Corequisites

Prerequisite   MCD 124 Advanced AutoCAD

MCD 114 Architectural Drafting & Design

Course Standard

Course Information

Description   Includes instruction in freehand drawing, basic residential planning, creative design, dimensioning, working details, light construction principles, building systems and blueprint development, learning construction terminology, applying ANSI Standards, local codes and drawing prints to industry standards.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   MCD 102 Introduction to CAD II
Prerequisite   MCD 104 Blueprint Reading for Drafting

MCD 115 Machine Drafting & Design

Course Standard

Course Information

Description	Includes instruction in creative design, geometric construction, auxiliaries, dimensioning, sectioning, isometrics, oblique's, specifications and notes, manufacturing engineering techniques and the Machinery's Handbook. Includes developing prints of working drawings, researching trade periodicals, learning machine terminology, using ANSI Standards and basic manufacturing blueprint development.
Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite	MCD 101 Introduction to CAD within the last 5 years
Prerequisite	MCD 121 Descriptive Geometry
Prerequisite	MCD 104 Blueprint Reading for Drafting

MCD 121 Descriptive Geometry

Course Standard

Course Information

Description	Students use computers to study descriptive geometry as it applies to drafting, and they determine true length of lines, true shapes of planes and apply descriptive geometry to real problems. Students will also create flat pattern layouts for form three dimensional shapes.
Total Credits	3
Total Hours	75

Pre/Corequisites

Pre/Corequisite	MCD 101 Introduction to CAD I

MCD 122 Architectural CAD

Course Standard

Course Information

Description   Students use computers to study descriptive geometry as it applies to drafting, and they determine true length of lines, true shapes of planes and apply descriptive geometry to real problems. Students will also create flat pattern layouts for form three dimensional shapes.

Total Credits   4

Total Hours   105

Pre/Corequisites

Prerequisite   MCD 114 Architectural Drafting & Design

MCD 124 Advanced AutoCAD

Course Standard

Course Information

Description   This course explores the three-dimensional construction and viewing capabilities of AutoCAD. Topics covered include a review of point coordinate entry and the user coordinate system (UCS). Spherical and cylindrical coordinate entry, 3D viewing and display techniques, construction of 3D solid primitives, 2D regions, solid modeling composites, and surfaces are also introduced. The use of multiple viewports for 3D constructions and creating 2D layouts are covered. Visual styles and rendering are also discussed.

Total Credits   4

Total Hours   105

Pre/Corequisites

Pre/Corequisite   MCD 115 Machine Drafting & Design

MCD 130 Basic Solidworks

Course Standard

Course Information

Description   Students Learn how to use the SOLIDWORKS mechanical design automation software to build parametric models of parts and how to make drawings of those parts.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   MCD 104 Blueprint Reading for Drafting OR MMG 113 Print Reading

MCD 132 Basic Chief Architect/Architectural Desktop

Course Standard

Course Information

Description   Students use the computers to learn how to utilize three dimensional software to design houses. This course provides instruction in how to use the software and draw walls, windows, doors, foundations, and roofs.

Total Credits   3

Total Hours   75

MCD 133 Advanced Solidworks

Course Standard

Course Information

Description   Students Learn how to use the SOLIDWORKS mechanical design automation software to create advanced part modeling and assemblies. Using the software we will also look at assembly blueprint creation as well as prepping for the CSWA exam.

Total Credits   3

Total Hours   60

Pre/Corequisites

MCD 134 Advanced Chief Architect/Architectural Desktop

Course Standard

Course Information

Description   Students use the computers to learn how to utilize three dimensional software to design houses. This course provides instruction in how to add interior furniture, terrains, elevations, working drawings, presentation drawings and how to use the camera functions.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   MCD 132 Basic Chief Architect/Architectural Desktop

MCD 137 Introduction to 3D Printing

Course Standard

Course Information

Description   This course seeks to provide the student with a basic understanding of the industrial design process, using the 3D printer capability to obtain hands-on experience in producing a design from concept to prototype. Major topics covered this introductory course include: Basic Part Design using AutoDesk Inventor; Basic Part Design using Solidworks; 3D Part Modeling

Total Credits   2

Total Hours   45

MCD 140 Drafting Technology Internship

Course Standard

Course Information

Description	Introduces students to the application and reinforcement of drafting and employability principles in an actual job setting. This internship acquaints the student with realistic work situations and provides insights into a drafting job. Topics include appropriate work habits, acceptable job performance, application of drafting/CAD knowledge and skills, interpersonal relations, and development of productivity.
Total Credits	4
Total Hours	180

Pre/Corequisites

Prerequisite   MCD 124 Advanced AutoCAD & CAT 105 CATIA Assembly Design or MCD 124 Advanced AutoCad & MCD 134 Chief Architect/Architectural Desktop

Prerequisite   All paperwork must be submitted to the department before a student may enroll in this course.

MCD 201 Geometric Dimensioning & Tolerance

Course Standard

Course Information

Description	The Geometric dimensioning and tolerance course is an in-depth study designed to develop a basic working knowledge in geometric dimensioning and tolerancing (GD&T). It is delivered per the ASME Y14.5M, 1994 standard. This program has been presented and refined over the past 25 years and covers what personnel need to know in order to work in an industrial environment on a daily basis. The course includes emphasis on all the basics, such as the rules, measurement theory, the datum reference frame, form, orientation, profile and positional tolerancing. The program materials contain a variety of computer color animated graphics, video clips and plastic models which allow the students to clearly understand the concepts.
Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite   Blueprint Reading (MMG 113 Print Reading or AVC 112 Blueprint Reading or MCD 104 Blueprint Reading for Drafting)

MCD 205 Residential Drafting

Course Standard

Course Information

Description   Introduces architectural drawing skills necessary to produce a complete set of construction drawings given floor plan information. Topics include: footing, foundation, and floor plans; interior and exterior elevations; sections and details; window, door, and finish schedules; site plans, and specifications.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   MCD 132 Basic Chief Architect/Architectural Desktop

MCD 206 Commercial Drafting & Design

Course Standard

Course Information

Description   Introduces commercial drawing skills necessary to produce construction drawings given floor plan information. Topics include: structural steel detailing, reflected ceiling plans, rebar detailing, and commercial construction drawings.

Total Credits   3

Total Hours   45

MCD 210 Advanced Measuring

Course Standard

Course Information

Description   This course is designed to assist multiple advanced technical training disciplines with the proper operation, field verification, and measuring techniques of instruments utilized in precision machining and manufacturing. Both SAE and metric measuring instruments will be covered in topics including Primary standards, Flexible Measuring Instruments, Support and Layout, Surface Finishing and Hardness, Data Acquisition and Optical Comparator.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite   MCD 106 Precision Measuring

MDU 010 Medication Aide Update

Course Standard

Course Information

Description   Provides the continuing education required every two years by the Kansas Department of Health and Environment for renewal of the medication aide certificate.

Total Credits	1
Total Hours	12

Pre/Corequisites

Prerequisite   GRA 101 Certified Nurse Aide

Prerequisite   GRA 119 Medication Aide

MEA 101 Medical Professional Issues

Course Standard

Course Information

Description   Reviews the role and function of the Medical Assistant. This course focuses on the basic concept of the professional practice of medicine and the scope of practice of the Medical Assistant. Students discuss the personal and professional characteristics and legal and ethical standards for Medical Assistants; explore professional and personal therapeutic communication, and addresses time management and goal setting.

Total Credits	2
Total Hours	30

MEA 113 Medical Administrative Aspects

Course Standard

Course Information

Provides an introduction to the administrative skills needed for a medical office. Students learn how to maintain medical records (both paper and electronic), manage appointments, and perform routine office duties. Focuses on the financial aspects of the medical office including accounts payable and accounts receivable. Students examine billing and collection procedures.

Total Credits   4

Total Hours   75

MEA 115 Insurance Billing & Coding

Course Standard

Course Information

Description   Explores the medical insurance system and related billing and coding. Students learn how to complete and submit electronic and paper insurance claim forms, perform referrals, and apply the correct procedure and diagnostic codes.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   ALH 101 Medical Terminology

Prerequisite   BIO150 Human Anatomy & Physiology

MEA 116 Pharmacology Medication Administration

Course Standard

Course Information

Description   Course focus is on medication dosage calculation, preparation and administration by gastrointestinal and parenteral (excluding IV) routes for adults and children, completing a written prescription and interpretation of the medical order. Successful demonstration of skill competency is required.

Total Credits   2

Total Hours   45

Pre/Corequisites

Corequisite   ALH 155 Pharmacology for Allied Health

MEA 121 Patient Care II

Course Standard

Course Information

Description   Focuses on expanding the knowledge and skills in Patient Care I. More complex and independent procedures performed by the Medial Assistant will be explored. Addresses surgical procedures, physical therapy, principles of radiology, emergency procedures and pulmonary function testing. Includes the performance of an electrocardiogram (EKG).

Total Credits   4

Total Hours   105

Pre/Corequisites

Prerequisite   ALH 155 Pharmacology for Allied Health

Prerequisite   ALH 101 Medical Terminology

Prerequisite   BIO 150 Human Anatomy & Physiology

Prerequisite   MEA 101 Professional Issues

Prerequisite   MEA 113 Medical Administrative Aspects

Prerequisite   MEA 115 Insurance Billing & Coding

Prerequisite   MEA 116 Pharmacology Medication Administration

Prerequisite   MEA 111 Patient Care I

MEA 125 Clinical Laboratory Procedures

Course Standard

Course Information

Description	This course addresses the role and function of the professional in the clinical laboratory setting. Topics include safety, Clinical Laboratory Improvement Act of 1988 (CLIA-88) government regulations and quality assurance in the laboratory. Students learn concepts and perform procedures in the different departments of the laboratory, including specimen collection and performance of CLIA-88 low- and/or moderate-complexity testing. Students demonstrate competencies in a wide variety of techniques used to collect, process, and test specimens.

Total Credits	4
Total Hours	90

Pre/Corequisites

Prerequisite	MEA 111 Patient Care I OR GRA 101 Certified Nurse Aide
Prerequisite	ALH 101 Medical Terminology
Prerequisite	ALH 155 Pharamacology for Allied Health

MEA 131 Medical Assistant Practicum

Course Standard

Course Information

Description	Provides the opportunity to apply clinical, laboratory, and administrative skills in a supervised, non-remunerated externship in a medical facility. Emphasis is placed on enhancing competence in clinical and administrative skills necessary for comprehensive patient care and strengthening professional communications and interactions. Upon completion, students should be able to function as an entry-level health care professional. Requires current cardio pulmonary resuscitation (CPR) certification (health care provider level).

Total Credits	6
Total Hours	240

Pre/Corequisites

Prerequisite	MEA 101 Professional Issues
Prerequisite	MEA 111 Patient Care I
Prerequisite	MEA 113 Medical Administrative Aspects I
Prerequisite	MEA 115 Insurance Billing & Coding

Prerequisite	MEA 116 Pharmacology Medication Administration
Prerequisite	MEA 121 Patient Care II
Prerequisite	MEA 125 Clinical Laboratory Procedures
Prerequisite	ALH 101 Medical Terminology
Prerequisite	ALH 130 Emergency Preparedness for Health Professionals

Prerequisite	ALH 131 Diseases, Disorders & Diagnostic Procedures
Prerequisite	ALH 155 Pharmacology for Allied Health

MFG 100 Lean Manufacturing

Course Standard

Course Information

Description   This course is designed to familiarize the students with the concepts and practices of Lean Manufacturing as applied in industry today. Students begin with a discussion of Lean Manufacturing's place in the overall process of continuous improvement. Students will then move on to learning to apply basic elements of lean, lean system design, lean tools and measurement methods to industry based scenarios.

Total Credits   3

Total Hours   45

MFG 125 Manufacturing Internship

Course Standard

Course Information

Description   The internship represents an educational strategy linking the classroom with the acquisition of knowledge in the workplace. Through direct observation, reflection and evaluation, students gain an insight into the internship site's work, mission, and audience, how these relate to their academic study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.

Total Credits   1

Total Hours   45

MMG 113 Print Reading

Course Standard

Course Information

Description   Student will learn to identify basic lines, views, and abbreviations used in blueprints, interpret basic 2 D sketches using orthographic projections and blueprints, determine dimensions of features of simple parts, sketch simple parts with dimensional measurements, determine dimensions of a multi-feature part, interpret GDT symbols, frames and datums.

Total Credits   3

Total Hours   45

MMG 115 Machining I

Course Standard

Course Information

Description   Students will learn to conduct job hazard analysis for conventional mills and lathes, develop math skills for machine tool operations, perform preventive maintenance and housekeeping on conventional mills and lathes, select work holding devices for mills, lathes and other machine tools, calculate feeds and speeds, remove material using milling and turning processes, align milling head, use a vertical mill to center drill, drill and ream holes, change tools and tool holders on milling machines, and maintain saws and grinders.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   AVC 110 Safety/ OSHA 10

MMG 116 Quality Control & Inspection

Course Standard

Course Information

Description   Students are introduced to the science of dimensional metrology and its applications to ensure form and function of machined parts and assemblies using semi-precision and precision measuring instruments.

Total Credits   1

Total Hours   15

MMG 126 Machining II

Course Standard

Course Information

Description   Students learn to perform basic trigonometric functions, and perform other procedures such as I.D. boring and facing operations, planning a sequence for machining operations, aligning work pieces, use work holding devices, jigs and fixtures, performing threading operations on lathes, machining keyways on a vertical mill, inspecting and dressing grinding wheels, performing O.D. & I.D. threading operations, performing O.D. & I.D. tapering operations, machining parts using milling cutters and milling machines, and tapping holes on a vertical mill.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   MMG 115 Machining I

MMG 130 Bench Work

Course Standard

Course Information

Description   In this course students will learn the importance of tool management and tool presetting in a production environment. Examines tool presetting and tool presetter programming. Provides students with the opportunity to inspect and validate complex tool geometry using a computer numerical controlled (CNC) tool presetter.

Total Credits   1

Total Hours   30

Pre/Corequisites

Prerequisite   AVC 110 Safety/OSHA 10

Prerequisite   MMG 116 Quality Control & Inspection

MMG 131 Metallurgy
Course Standard

Course Information

Description   Students learn the metallurgical terms and definitions in an effort to understand the behavior and service of metals in industry. Characteristics during heating, cooling, shaping, forming, and the stress related to their mechanical properties are covered, as well as the theory behind alloys, heat treatment processes and wear resistance.

Total Credits   1
Total Hours   15

Pre/Corequisites

Prerequisite   AVC 110 Safety/ OSHA 10
Prerequisite   MMG 113 Print Reading

MMG 132 Machine Tool Processes
Course Standard

Course Information

Description   This course provides students with the opportunity to demonstrate process and quality control through the use of information technology (IT) systems in the manufacturing environment. Covers the use of measure cuts in high-end machining, systems communication, and data transfer to monitor productivity and quality. Features tools to monitor part quality in process.

Total Credits   1
Total Hours   15

Pre/Corequisites

Prerequisite   AVC 110 Safety/ OSHA 10
Prerequisite   MMG 116 Quality Control & Inspection
Prerequisite   MMG 113 Print Reading

MMG 135 Machining Fundamentals

Course Standard

Course Information

Description   This course will provide students with a solid foundation in all aspects of conventional mills and lathes. In this project- based course students will learn and apply skills in machining benchwork, blueprint analysis and project planning. The course projects will require that students learn all aspects of lathe/mills set up and usage techniques including work holding selection and feed and speed calculation. Knowledge of machine maintenance, tool selection, math skills, and job hazard analysis are also applied in this course.

Total Credits   3

Total Hours   75

MMG 140 Metrology

Course Standard

Course Information

Description   Students will learn the proper operation, field verification, and measuring techniques utilized in the machining industry. In this course students apply knowledge on state of art equipment and utilize simulation software. Additionally, students will learn and comply with TS-16949, ISO 9001 and MSA (Measurement Systems Analysis).

Total Credits   4

Total Hours   90

MMG 154 Multi-Cell Operations

Course Standard

Course Information

Description   In this course students will learn robotic/automation principles needed to function in the modern machining environment. In the course students will obtain hands on experience by applying CNC operation skills to multi cell robotic environment.

Total Credits   4

Total Hours   90

MMG 155 CNC Lathe

Course Standard

Course Information

Description Introduces students to two axis computer numerical control lathes machining. The theory of operations is developed in the classroom and through interactive on line learning. Students then apply the knowledge in a cutting edge CNC laboratory. Topics include machine set up, coordinates terminology, cutter paths, angel cutting, and linear cutting.

Total Credits 3

Total Hours 60

Pre/Corequisites

Prerequisite MMG 156 CNC Operations

MMG 156 CNC Operations

Course Standard

Course Information

Description Students will become acquainted with the history of Numerical Control (NC) and Computer Numerical Control (CNC) machines and will be introduced to a CNC machine used in the precision machining trades. They will gain practical experience in the application of "G" codes and "M" codes, writing CNC machine programs, and machine setup and operation.

Total Credits 3

Total Hours 75

Pre/Corequisites

Prerequisite AVC 110 Safety/ OSHA 10

Prerequisite MMG 116 Quality Control & Inspection

Corequisite MMG 131 Metallurgy

Prerequisite MMG 113 Print Reading

MMG 158 CNC Controllers

Course Standard

Course Information

Description   This course introduces the basic operation of CNC controllers commonly found on CNC Machining Centers and CNC Turning Centers. Topics include: basic setup and operations, tool and work offsets, loading programs into memory and minor edit functions.

Total Credits   2

Total Hours   60

Pre/Corequisites

Prerequisite   MMG 156 CNC Operations

MMG 160 CNC Milling I

Course Standard

Course Information

Description   Students will gain practical experience in setting up and performing basic operations on CNC Milling machines.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   MMG 156 CNC Operations

MMG 164 Advanced Machining Processes

Course Standard

Course Information

Description   In this course students will apply knowledge and skills learned throughout the program to complex machining projects. Working in a state of the art machining laboratory students will produce projects which reflect the most advanced skills needed in the machining industry.

Total Credits   3

Total Hours   75

MMG 170 Mastercam Mill 2 Axis

Course Standard

Course Information

Description   An introductory level course for Mastercam Software. This course will cover 3D modeling, 2D Machining, Gcode generation and the creation of set-up documentation.

Total Credits   4

Total Hours   90

MMG 173 G D & T for Machining

Course Standard

Course Information

Description   The Geometric dimensioning and tolerance course is an in-depth study designed to develop a working knowledge in geometric dimensioning and tolerancing (GD&T) as it applies to Machining. It is delivered per the ASME Y14.5M, 1994 standard. This program has been presented and refined over the past 25 years and covers what personnel need to know in order to work in a Machining environment on a daily basis. The course includes emphasis on all the basics, such as the rules, measurement theory, the datum reference frame, form, orientation, profile and positional tolerancing. The program materials contain a variety of computer color animated graphics, video clips and plastic models which allow the students to clearly understand the concepts.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   MMG 113 Print Reading

MMG 175 Mastercam Mill 3D Surface

Course Standard

Course Information

Description   This course introduces the methods used to create toolpaths for a CNC machining center using three dimensional solid models. Topics include 3D Wireframe & Surface, Surface Rough Plunge, Surface Finish Contour, Surface Finish Shallow, Surface Rough Pocket, and Surface Finish Contour.

Total Credits   4

Total Hours   60

MMG 180 Mastercam 4 & 5 Axis Mill

Course Standard

Course Information

Description   This course introduces the methods used to create 4 and 5 Axis toolpaths for a CNC machining center using three dimensional solid models. Topics include 4 and 5 Axis machining of complex geometry.

Total Credits   4

Total Hours   60

MMG 184 Multi-Axis Milling

Course Standard

Course Information

Description   This course will build on the concepts learned in the CNC Milling course and teach students how to set up and operate 4th and 5th axis milling machines. Students will understand the concept of rotational axes and be introduced to probing routines and automatic tool setters. Students will learn the application of the work coordinate system in the multi-axis environment and be introduced to more complex work holding options.

Total Credits   4

Total Hours   90

Pre/Corequisites

Prerequisite   MMG 155 CNC Lathe

MMG 225 Internship/Directed Work Study

Course Standard

Course Information

Description   This internship course offers students opportunities to be employed in their field with a 40-hour work week to expand their work experience related to their field of study.

Total Credits   4

Total Hours   180

MMGN 005 Precision Measuring Instrument

Course Standard

Course Information

Description   This course is designed to assist multiple technical training disciplines with the proper operation, calibration, and measuring technique's required for utilizing precision measurement equipment effectively. Both SAE and metric measuring instruments will be covered; including steel rules, feeler gauges, precision straight edge, calipers, inside and outside micrometers, angle measurement, small hole gauges, telescoping gauges and dial indicators.

Total Hours   30

Pre/Corequisites

Prerequisite   MCD 104 Blueprint Reading for Drafting Or AVC 112 Blueprint Reading or MMG 113 Print Reading

MMGN 006 Print Reading

Course Standard

Course Information

Description   Student will learn to identify basic lines, views, and abbreviations used in blueprints, interpret basic 2 D sketches using orthographic projections and blueprints, determine dimensions of features of simple parts, sketch simple parts with dimensional measurements, determine dimensions of a multi-feature part, interpret GDT symbols,

frames and datums.

Total Hours　　45

MMGN 007 CNC Operations
Course Standard

Course Information

Description　　Students will become acquainted with the history of Numerical Control (NC) and Computer Numerical Control (CNC) machines and will be introduced to a CNC machine used in the precision machining trades. They will gain practical experience in the application of "G" codes and "M" codes, writing CNC machine programs, and machine setup and operation.

Total Hours　　75

Pre/Corequisites

Prerequisite　　　　AVC 110 Safety/ OSHA 10

Prerequisite　　　　MMG 116 Quality Control & Inspection

Corequisite　　　　MMG 131 Metallurgy

Prerequisite　　　　MMG 113 Print Reading

MGT 106 Introduction To Human Resources

Course Standard

Course Information

Description Comprehensive view of human resources within an organization. Students examine the human resource functions of strategic human resource management, workforce planning, recruitment and selection, human resource development (training and development), total rewards (compensation and benefits), employee and union relations and risk management (health, safety and security). Emphasis is placed on understanding how human resource management contributes to an organization's strategic direction and enhances the organization's competitiveness.

Total Credits 3

Total Hours 45

MGT 111 Buiness Ethics

Course Standard

Course Information

Description Provides students with an overview of business ethics and ethical management practices, with emphasis on the process of ethical decision-making and working through contemporary ethical dilemmas faced by business organizations, managers and employees. The course is intended to demonstrate to the students how ethics can be integrated into strategic business decisions and can be applied to their own careers. The course uses a case study approach to encourage the student in developing analytical, problem-solving, critical thinking and decision-making skills. Topics include: An overview of business ethics; moral development and moral reasoning, personal values, rights and responsibilities; frameworks for ethical decision-making in business' justice and economic distribution' corporations and social responsibility, corporate codes of ethics and effective ethics programs, business and society; consumers and the environment; ethical issues in the workplace; business ethics in a global and multicultural environment; business ethics in cyberspace; and business ethics and the rule of law.

Total Credits 3

MNF 110 CNC Basics

Course Standard

Course Information

Description   Students will acquire knowledge of Computer Numerical Control (CNC) machines and will be introduced to CNC machines used in the precision machining trades. They will gain practical experience in the use of CNC Mills/Lathes through machine setup and operation.

Total Credits   2
Total Hours   45

Pre/Corequisites

Prerequisite   AVC 110 Safety/OSHA 10

MNF 113 Blueprint Basics For Manufacturing

Course Standard

Course Information

Description   This course is an introduction to reading and interpreting blueprints. Topics include blueprint views, lines, dimensions and tolerances and blueprint symbols. Working in an interactive online environment students' learn a systematic approach to reading blueprints.

Total Credits   2
Total Hours   30

MNF 115 Forklift Operations

Course Standard

Course Information

Description   This course is designed to train entry level workers in the correct use of a forklift to unload, move, stack, and load materials for shipping and distribution.

Total Credits   1
Total Hours   15

MNF 120 Manufacturing Processes & Production I

Course Standard

Course Information

Description	This course provides the introduction in a three part series of instruction which is designed to provide students with a broad and basic understanding of manufacturing processes and production principles. In this course, students will explore a variety of topics that offer not only an understanding of manufacturing as an industry but also manufacturing as a career pathway. Using federal and nationally recognized standards, this coursework focuses on topics pertinent to manufacturing operation and production including the major components of manufacturing, the types of manufacturing processes, the key elements of production planning, industry specific opportunities in manufacturing and career field specific opportunities in manufacturing.

Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite	AVC 110 Safety/OSHA 10
Prerequisite	MMG 113 Print Reading
Prerequisite	AVC 135 Hand Tools
Prerequisite	MCD 106 Precision Measuring

MNF 125 Maintenance Training

Course Standard

Course Information

Description	In this course the student will learn how to monitor production equipment for both routine and preventive maintenance. The use of OEE (Overall Equipment Efficiency) is introduced; Targeting each fix in a production system under a 'zero fails' mentality. Monitoring includes, analysis of equipment performance, Autonomous Maintenance (AM), and practicing planned stops for CIL's (Clean, Inspect, Lube) and Preventative Maintenance (PM) by recording, evaluating and categorizing failure through the visualization of data.

Total Credits	4
Total Hours	105

MNF 130 Manufacturing Processes & Production II

Course Standard

Course Information

Description	In this course students continue their study of current manufacturing processes & production concepts. During the course the Federally-endorsed and national-endorsed standards required in industry and production are explored. The emphasis is placed on Just-In-Time (JIT) manufacturing principles, communication skills, an overview of Cause and Effect of equipment failure and how to apply the 8 Pillars of Total Productive Maintenance (TPM) methodology.
Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite   MNF 120 Manufacturing Processes & Production I

MNF 135 Electrical Concepts

Course Standard

Course Information

Description	In this course students will be introduced to basic electrical theory as it relates to the manufacturing environment. Students will be able to demonstrate knowledge of circuit diagrams and applications of safe electrical practices.
Total Credits	3
Total Hours	75

MNF 140 Basic PLC's

Course Standard

Course Information

Description	This course introduces operational theory, systems terminology, PLC installations, and

programming procedures for programmable logic controls. Emphasis is placed on PLC programming, connections, installations, and start-up procedures. Topics include: PLC hardware and software, PLC functions and terminology, PLC installation and set up, PLC programming basics, relay logic instructions, timers and counters, connecting field devices to I/O cards, and PLC safety procedures.

Total Credits	3
Total Hours	75

MNF 145 Fluid

Course Standard

Course Information

Description	In this course students will learn the concepts relating to hydraulic systems. Students will be able to identify fluid movement types and processes and demonstrate knowledge of fluid-based transmission systems.

Total Credits	2
Total Hours	45

MNF 150 Automation in Manufacturing

Course Standard

Course Information

Description	This course in "Automation in Manufacturing" is designed with the primary focus on the design and development of automated systems in manufacturing. The course introduces various automated systems being used in the manufacturing industry (Industry 4.0).

Total Credits	3
Total Hours	75

MNF 155 Digital Electronics

Course Standard

Course Information

Description This course is designed to provide students with the concepts and terminology utilized in digital electronics. The student will be exposed to the most basic concepts of digital electronics to a wide variety of the fundamentals for circuits used in today's switching circuits. Once an understanding of the numbering system is achieved the course proceeds to basic logic circuits.

Total Credits 3

Total Hours 75

Pre/Corequisites

Prerequisite   MNF 135 Electrical Concepts

MNF 160 Manufacturing Processes & Production III

Course Standard

Course Information

Description In this course students further enhance their understanding of manufacturing process and production including those identified as Industry 4.0 skills. During the course the Federally-endorsed and national-endorsed standards required in industry and production are explored. The emphasis is placed on Just-In-Time (JIT) manufacturing principles, communication skills, an overview of Cause and Effect of equipment failure and how to apply the 8 Pillars of Total Productive Maintenance (TPM) methodology.

Total Credits 3

Total Hours 75

Pre/Corequisites

Prerequisite   MNF 130 Manufacturing Processes & Production II

Prerequisite   MMG 113 Print Reading

Prerequisite   AVC 110 Safety/OSHA 10

Prerequisite   AVC 102 Precision Instruments

Prerequisite   AVC 135 Hand Tools

MNF 163 Production Assembly

Course Standard

Course Information

Description   This course presents a systematic approach to production assembly operations in manufacturing. Students receive instruction in the fundamentals of assembly skills used throughout the modern manufacturing sector. Skill development includes torque wrenches, fittings, installing, operating, and maintaining o-rings and lip seals, assembling hoses and couplings, and routing hoses using clamps, brackets, and clips. In addition, the course includes the identification of fittings and handling of steel and plastic tubing.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   AVC 110 Osha/Safety

MNF 165 Automated Supply Chain

Course Standard

Course Information

Description   Students will acquire knowledge of supply chain automation to leverage digital technologies such as artificial intelligence (AI), machine learning (ML), optical character recognition (OCR), and robotics to lower the operational cost of delivering a product or service with primary emphasis on warehouse automation, predictive analytics, Internet of Things, and Cloud Logistics.

Total Credits   3

Total Hours   75

MNF 170 Drones and Data Analysis

Course Standard

Course Information

Description   This course will provide an introduction into the world of Unmanned Aerial Vehicles (UAVs) and the systems which support UAVs. Students will gain the knowledge and skills to become a drone certified pilot while learning how data collected during UAV operations is analyzed and operationalized in the manufacturing sector.

Total Credits   3

Total Hours   75

MNF 175 Manufacturing Technology Applied Learning Experience

Course Standard

Course Information

Description The applied learning experience represents an educational strategy linking the classroom with the acquisition of knowledge in the workplace. Through workplace participation, direct observation, reflection and evaluation, students gain an insight into the internship site's work, mission, and audience, how these relate to their academic study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.

Total Credits 3

Total Hours 135

MTH 020 Math Fundamentals

Course Standard

Course Information

Description This online course provides students a thorough study in the arithmetic of real numbers with elementary applications in consumer math and measurement. Students are introduced to the basic concepts of algebra. Topics include: Whole Numbers and Introduction to Algebra; Integers; Introduction to Equations and Algebraic Expressions; Fractions, Rations, and Proportions; Operations on Fractional Expressions; Decimals and Percents; Measurement, Geometric Figures and Measures of Central Tendency.

Total Credits 3

Total Hours 45

MTH 025 PACER Mathematics I

Course Standard

Course Information

Description This traditional/hybrid course provides the opportunity for students to master the

math skills required for the chosen academic/career goals via an individualized, self-accelerated pathway. Topics include: Whole Numbers and Introduction to Algebra; Integers; Introduction to Equations and Algebraic Expressions; Fractions, Ratios, and Proportions; Operations on Fractional Expressions; Decimals and Percents; Measurement, Geometric Figures and Measures of Central Tendency.

Total Credits	3
Total Hours	45

MTH 035 PACER Mathematics II

Course Standard

Course Information

Description   This traditional/hybrid course provides the opportunity for students to master the math skills required for their chosen academic/career goals via an individual, self-accelerated pathway. This course is a continuation of the curriculum started in PACER Mathematics I. Topics include: Introduction to Polynomials; Equations, Inequalities, and Applications; Graphing and Functions; Systems of Linear Equations and Inequalities; Exponents and Polynomials.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite   MTH 025 PACER Mathematics I

MTH 050 Beginning Algebra with Review

Course Standard

Course Information

Description   This course provides students with a solid foundation of beginning algebraic concepts combined with an embedded review of fundamental mathematical skills.

Total Credits	4
Total Hours	60

MTH 095 Mathematical Reasoning

Course Standard

Course Information

Description   A mathematics course focused on the skills and knowledge required for numerical and quantitative literacy. The course emphasizes the development of critical thinking and quantitative reasoning skills necessary to understand, analyze, and interpret real-world quantitative information in the context of a discipline or an interdisciplinary problem and to draw conclusions that are relevant to students in college, career, and life.

Total Credits   3

Total Hours   45

Pre/Corequisites

MTH 050 – Beginning Algebra with Review OR

MTH 035 – PACER II OR

MTH 030 – Elementary Algebra OR

Appropriate Placement Assessment score

MTH 101 Intermediate Algebra

Course Standard

Course Information

Description   This course will provide students with the algebraic skills necessary to begin understanding abstract mathematical concepts that involve arithmetic and algebraic manipulation, equations and inequalities, graphs, analysis of equations and graphs, and real-world applications.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   MTH 050 Beginning Algebra with Review OR appropriate placement test score

MTH 102 Intermediate Algebra with Review

Course Standard

Course Information

Description   This online course provides students with the same algebraic skills discussed in MTH 101 (Intermediate Algebra) with additional review and practice of elementary algebraic skills. Topics include: Introduction to Polynomials; Equations, Inequalities, and Applications, Graphing and Functions; Systems of Linear Equations and Inequalities; Exponents and Polynomials; Factoring; Rational Expressions and Equations; Rational Exponents and Radicals; and Introduction to Quadratic Equations.

Total Credits   5

Total Hours   75

Pre/Corequisites

Prerequisite   MTH 020 Math Fundamentals OR MTH 025 PACER Mathematics I

MTH 105 PACER Mathematics III

Course Standard

Course Information

Description   This traditional/hybrid courses provides the opportunity for students to master the math skills required for their chosen academic/career goals via an individualized, self-accelerated pathway. This course is a continuation of the curriculum completed in PACER Mathematics I & II. Topics include: Factoring; Rational Expressions and Equations; Rational Exponents and Radicals; and Quadratic Equations.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   MTH 035 PACER Mathematics II

MTH 111 College Algebra with Review

Course Standard

Course Information

Description   This course is an introduction of algebraic functions and some transcendental functions with application in business and life, natural and social sciences. Topics include solving equations, zeros, rational functions, matrices, exponentials and

logarithms and systems. Additional topics are included as time permits. Students must furnish their own TI-83 or TI- 83 PLUS graphing calculators.

Total Credits   5

Total Hours   75

Pre/Corequisites

Prerequisite   MTH 101 Intermediate Algebra

Prerequisite   MTH 102 Intermediate Algebra with Review

MTH 112 College Algebra

Course Standard

Course Information

Description   This course will enable the student to use and interpret the mathematical symbols and notation relating to functions. The student will analyze the graphs of various mathematical functions with the assistance of a graphing utility, including polynomial, rational, root, absolute value, logarithmic and exponential functions, and solve related equations and inequalities, including systems of equations and inequalities. The student will use both graphical analysis and equation solving in the context of word problems. Topics include: Equations and Inequalities; Functions and Graphs; Polynomial and Rational Functions; Exponential and Logarithmic Functions; Systems of Equations and Inequalities; Matrices and Determinants. The learning outcomes and competencies detailed in this outline meet, or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Project for this course, as approved by the Kansas Board of Regents (Transfers as MAT 1010).

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   MTH 101 Intermediate Algebra OR MTH 102 Intermediate Algebra OR MTH 105 PACER Mathematics III

MTH 113 Trigonometry

Course Standard

Course Information

Description   This course will enable the student to identify and manipulate trigonometric functions, solve triangles, use and prove identities, solve trigonometric equations, use and apply vectors to real-life models, and use complex numbers and polar coordinates. Topics include: Angles and the Trigonometric Functions; Graphs of the Trigonometric Functions; Inverse Trigonometric Functions; Trigonometric Identities; Laws of Sines and Cosines; Vectors; Complex Numbers, Polar Coordinates and Parametric Equations. The learning outcomes and competencies detailed in this outline, meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Project for this course, as approved by the Kansas Board of Regents (Transfers as MAT 1030)

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   MTH 111 College Algebra with Review OR MTH 112 College Algebra

MTH 115 Pre-Calculus Mathematics

Course Standard

Course Information

Description   This course will enable the student to develop and apply models using linear, polynomial, rational, logarithmic, exponential, and trigonometric functions. The successful student will be able to identify and manipulate functions, solve equations, prove trigonometric identities, solve triangles, and use polar coordinates. Topics include: Equations and Inequalities; Functions and Graphs; Polynomial and Rational Functions; Exponential and Logarithmic Functions; Systems of Equations and Inequalities; Matrices and Determinants; Angles and the Trigonometric Functions; Graphs of the Trigonometric Functions; Inverse Trigonometric Functions; Trigonometric Identities; Laws of Sines and Cosines; Vectors; Complex Numbers, Polar Coordinates and Parametric Equations.

Total Credits   5

Total Hours   75

Pre/Corequisites

Prerequisite   MTH 101 Intermediate Algebra OR MTH 102 Intermediate Algebra with Review OR MTH 105 PACER Mathematics III

MTH 120 Elementary Statistics

Course Standard

Course Information

Description   This course will enable the student to collect data by appropriate sampling techniques, summarize data with graphs and tables, calculate descriptive statistics, identify misuses of statistics, assess risk using concepts of probability, estimate and make decisions about means and proportions through the use of confidence intervals and hypothesis testing, and perform linear regression. Topics include: Data Collection; Organizing and Summarizing Data; Numerically Summarizing Data; Describing the Relation between Two Variables; Probability; Discrete Probability Distributions; The Normal Probability Distribution; Sampling Distributions; Estimating the Value of a Parameter; Hypothesis Tests Regarding A Parameter, and Inferences on Two Samples. The learning outcomes and competencies detailed in this outline meet, or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Project for this course, as approved by the Kansas Board of Regents (Transfers as MAT 1020).

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   MTH 112 College Algebra OR MTH 115 Pre-Calculus Mathematics

MTH 121   Elementary Statistics Lab with Excel

Course Standard

Course Information

Description   Using Excel to construct Frequency Tables & Histograms, compute and explore Measures of Tendency. Sampling Distributions, Confidence Intervals, and Hypotheses testing. This course requires that the student have MICROSOFT EXCEL 97 or greater.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   MTH 120 Elementary Statistics

MTH 125 Calculus I

Course Standard

Course Information

Description   This course will enable the students to solve problems involving limits, derivatives and some types of definite and indefinite integrals both analytically and graphically, and use them in physical applications. The learning outcomes and competencies detailed in this outline meet, or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Project for this course, as approved by the Kansas Board of Regents (Transfers as MAT 2010).

Total Credits   5

Total Hours   75

Pre/Corequisites

Prerequisite   MTH 112 College Algebra and MTH 113 Trigonometry OR MTH 115 Pre-Calculus Mathematics

MTH 150 Calculus II

Course Standard

Course Information

Description   This course will enable the student to understand applications and methods of integration, improper integrals, convergence and divergence of infinite series, graphs of conic sections, the polar coordinate system, parametric equations, and linear algebra

Total Credits	5
Total Hours	75

Pre/Corequisites

Prerequisite   MTH 125 Calculus I

MUS 110 Music Appreciation

Course Standard

Course Information

Description   This course is designed for non-music majors. A background in music is not necessary for enrollment. Emphasis is placed on the development of competence in listening to music through the study of the sources, mediums, elements of music, musical forms, composers, and periods of music

Total Credits	3
Total Hours	45

Total Hours	45

NDT 100 Penetrant Inspection

Course Standard

Course Information

Description   In this course students will master the competencies associated with Liquid Penetrant testing at Level I and Level II. This course adheres to the standards developed by the American Society for Nondestructive Testing (ASNT). Laboratory work will parallel lecture materials from the classroom.

Total Credits	3
Total Hours	40

NDT 101 Magnetic Particle Testing

Course Standard

Course Information

Description   In this course students will master the competencies associated with the Magnetic Particle Testing method at Level I and Level II. This course adheres to the standards

developed by the American Society for Nondestructive Testing (ASNT). Laboratory work will parallel lecture materials from the classroom.

Total Credits	3
Total Hours	40

NDT 102 Radiation Safety

Course Standard

Course Information

Description In this course students will master the competencies associated with Radiation Safety. This course adheres to the standards developed by the American Society for Nondestructive Testing (ASNT), Nuclear Regulatory Commission, and the State of Kansas. Laboratory work will parallel lecture materials from the classroom.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite   MTH 101 Intermediate Algebra or MTH 112 College Algebra

NDT 103 Radiographic Testing Level II

Course Standard

Course Information

Description In this course students will master the competencies associated with Radiographic Testing at Level II. This course adheres to the standards developed by the American Society for Nondestructive Testing (ASNT). Laboratory work will parallel lecture materials from the classroom.

Total Credits	3
Total Hours	40

Pre/Corequisites

Prerequisite   NDT 107 Radiographic Testing Level I

NDT 107 Radiographic Testing Level I

Course Standard

Course Information

Description	In this course students will master the competencies associated with Radiographic Testing at Level I. This course adheres to the standards developed by the American Society for Nondestructive Testing (ASNT). Laboratory work will parallel lecture materials from the classroom.

Total Credits	3
Total Hours	40

Pre/Corequisites

Prerequisite   NDT 102 Radiation Safety

NDT 110 Eddy Current Level I

Course Standard

Course Information

Description	In this course students will master the competencies associated with electromagnetic (Eddy Current) testing at Level I. This course adheres to the standards developed by the American Society for Nondestructive Testing (ASNT). Laboratory work will parallel lecture materials from the classroom.

Total Credits	3
Total Hours	40

NDT 111 Eddy Current Level II

Course Standard

Course Information

Description	In this course students will master the competencies associated with electromagnetic (Eddy Current) testing at Level II. This course adheres to the standards developed by the American Society for Nondestructive Testing (ASNT). Laboratory work will parallel lecture materials from the classroom.

Total Credits	3
Total Hours	40

Pre/Corequisites

NDT 112 Ultrasonic Testing Method Level I

Course Standard

Course Information

Description   In this course, students will master the competencies associated with Ultrasonic Testing Methods at Level I. This course adheres to the standards developed by the American Society for Nondestructive Testing (ASNT). Laboratory work will parallel lecture materials from the classroom.

Total Credits   3

Total Hours   40

NDT 113 Ultrasonic Testing Method Level II

Course Standard

Course Information

Description   In this course, students will master the competencies associated with Ultrasonic Testing Methods at Level II. This course adheres to the standards developed by the American Society for Nondestructive Testing (ASNT). Laboratory work will parallel lecture materials from the classroom.

Total Credits   3

Total Hours   40

Pre/Corequisites

Prerequisite   NDT 112 Ultrasonic Testing Method Level I

NDT 114 Visual Inspection

Course Standard

Course Information

Description   In this course, students will master the competencies associated with Visual Inspection. This course adheres to the standards developed by the American Society for Nondestructive Testing (ASNT). Laboratory work will parallel lecture materials from the classroom.

Total Credits   2

Total Hours   30

NDT 117 Assembly Overview for NDT

Course Standard

Course Information

Description   This course is designed to provide the NDT student with the basic overview of aircraft assembly including both composite and sheet metal assembly and inspection techniques.

Total Credits   3

Total Hours   45

NDT 123 Advanced Ultrasonic Testing Methods

Course Standard

Course Information

Description   This course will provide students with basic knowledge and skills to utilize specific ultrasonic testing techniques to include C-Scan, Phased Array, Bond Testing and Time of flight Diffraction in the manufacturing, aerospace, transportation, energy, and refinery environment. Students will learn to inspect and evaluate various materials including metallic welded components and composites. Students will understand the basic elements of each technique and will demonstrate this understanding through written and practical laboratory examinations.

Total Credits   5

Total Hours   80

Pre/Corequisites

Prerequisite   NDT 113 Ultrasonic Testing level II

NDT 145 Maintenance & Reliability

Course Standard

Course Information

Description   Maintenance & Reliability is a class designed to introduce students to the theories, principles, & applications of many predictive maintenance technologies as used in industrial settings to aid in equipment reliability. It also covers the strategies used to maintain machine reliability, reduce downtime, & reduce maintenance costs. The class covers a portion of the basic concepts for thermography, vibration analysis, oil analysis, airborne ultrasound, and electric motor circuit analysis as recommended by ASNT-TC-1A for certification.

Total Credits   3

Total Hours   45

NDT 150 Vibration Analysis Level I

Course Standard

Course Information

Description   Provides an introduction to Vibration Analysis. The student focuses on learning vibration analysis terminology, measurement units, principles, hardware, and software. The course also gives a functional understanding of machinery basics. Students will demonstrate proficiency in data collection and fundamentals of analysis.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   MTH 020 Math Fundamentals

NDT 151 Vibration Analysis Level II

Course Standard

Course Information

Description   This course reviews and expands on the knowledge obtained in Vibration Analysis I. The students will use calculations, graphs, and charts to demonstrate their ability to understand the theories and application of vibration analysis. Students will become familiar with the many different tools, software, and accessories necessary to provide good vibration analysis to a customer. The students will gain more knowledge in the proper way to collect and analyze data.

Total Credits   3
Total Hours   45

Pre/Corequisites

NDT 150 Vibration Analysis I

MTH 112 College Algebra

NDT 152 Vibration Analysis Level III

Course Standard

Course Information

Description   This course is designed to provide the student with the ability to design or manage a vibration program, to evaluate an outside vibration analysis program, to integrate other predictive technologies into their program, and to provide in depth analysis to an existing vibration analysis program. A level III vibration analyst may also be called upon to provide on-the-job training to new hires within a company.

Total Credits   3
Total Hours   45

Pre/Corequisites

Prerequisite   NDT 151 Vibration Analysis II
Prerequisite   MTH 112 College Algebra

NDT 155 Thermography Level I

Course Standard

Course Information

Description   The course provides an introduction to the principles of Thermography and the operation of Infrared equipment in realistic scenarios. The student focuses on learning the modes of heat transfer, radioiosity. The student will gain proficiency in identifying acceptable and rejectable images, optimizing images, and selecting the best image perspective to capture required data. Students will also demonstrate the knowledge and ability to perform Image storage and recall, report writing, and quality reporting.

Total Credits   3

Total Hours   45

NDT 156 Thermography Level II

Course Standard

Course Information

Description   This course expands upon the topics covered in Thermography 1 and goes deeper into data analysis. Students will learn the functionality of thermal cameras, keys to capturing good thermal images, data storage, and reporting. Students will use mathematical formulas to calculate heat transfer rates associated with the laws of thermodynamics.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   NDT 155 Thermography I

NDT 160 Acoustic Emission Testing Level I

Course Standard

Course Information

Description   In this course students will master the competencies associated with the Acoustic Emission Testing method at Level I and Level II. This course adheres to the standards developed by the American Society for Nondestructive Testing (ASNT). Laboratory work will parallel lecture materials from the classroom.

Total Credits   3

Total Hours   45

NDT 165 Machine Lubrication and Analysis I

Course Standard

Course Information

Description   Machine lubrication and analysis I provides an introduction to machine lubrication and the techniques used to analyze lubricating fluids. The student focuses on machine failure modes and the role of lubrication in asset health, preventive, and predictive maintenance. The student learns the fundamentals of tribology, chemical composition of lubricating fluids, and various types of lubricating systems. Students will demonstrate proper lubricant application in various situations.

Total Credits   3

Total Hours   45

NDT 166 Machine Lubrication and Analysis II

Course Standard

Course Information

Description   Machine lubrication and analysis II provides a more in depth look at machine lubrication and the techniques used to analyze lubricating fluids. The student focuses on machine failure modes and the role of lubrication in asset health, preventive, and predictive maintenance. The student learns the fundamentals of tribology, chemical composition of lubricating fluids, and various types of lubricating systems. Students will demonstrate proper lubricant application in various situations.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   NDT 165 Machine Lubrication and Analysis I

NDT 167 Machine Lubrication and Analysis III

Course Standard

Course Information

Description   Machine lubrication and analysis III is designed to provide the student with the ability

to design or manage an oil analysis program, to evaluate outside oil analysis services, to integrate other predictive technologies into their program, and to provide in depth analysis to an existing oil analysis program. A level III oil analyst may also be called upon to provide on-the-job training to new hires within a company.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   NDT 166 Machine Lubrication and Analysis II

NDT 170 Electrical Motor Testing
Course Standard

Course Information

Description   This course will teach students to use a PdMA MCEmax tester to evaluate the condition of electric motors, motor circuits, and the associated components. Students will learn the basics of electrical circuits, electrical theory, and motor construction. This course will take the student through the process from hooking up the tester, to analyzing the data, and making repair recommendations

Total Credits   2

Total Hours   45

OPM 100 Lean Sigma
Course Standard

Course Information

Description   This course will teach students the basics of both Lean and Six Sigma and how these problem solving methodologies apply to manufacturing and service organizations. Students completing this course will be better prepared for real business world issues, and have the ability to apply these concepts and tools at a basic level.

Total Credits   3

Total Hours   45

OPM 105 Operations Management for Organizational Success

Course Standard

Course Information

Description   Operations Management introduces and applies the components of the continuous improvement philosophy and process to the operations of organizations. The study of dynamic management involvement and the use of continuous evaluation tools are reviewed and applied. These include applied management techniques and statistical measures of business processes.

Total Credits   3

Total Hours   45

OPM 110 Introduction to Supply Chain Management

Course Standard

Course Information

Description   Supply Chain Management introduces the building blocks of Supply Chain Strategy and the relationship with SC corporate strategy. Defines the elements of Supply Chain Management, including the importance of collaboration and partnering in a competitive business environment. Discusses the need for measures to manage the business and how the financial aspects are affected by SCM. Discusses outsourcing and why companies outsource to remain competitive.

Total Credits   3

Total Hours   45

OPM 115 Introduction to Project Management

Course Standard

Course Information

Description   This course focuses on a holistic approach to project management. The content deals with planning, scheduling, organizing, and controlling projects for example, product development, construction, information systems, new businesses, and special events. The course includes major topics of Strategy, Priorities, Organization, Project Tools, and Leadership. Primary class emphasis is on the project management process and tools. Project management is becoming more important in todays' world. Mastery of key tools and concepts could give you a significant competitive advantage in the marketplace.

Total Credits   3

Total Hours   45

PCT 100 EKG for Healthcare Providers

Course Standard

Course Information

Description   Focuses on the specialized procedures associated with the cardiovascular system. Students will perform electrocardiograms. Course also serves as an introduction to basic dysrhythmias and the skills necessary to recognize normal from abnormal in an emergency. Specific attention is given to patient significance and possible early intervention for each dysrhythmias. EKG rhythm strips, and exercises are provided for student recognition and practice.

Total Credits   4

Total Hours   75

Pre/Corequisites

Prerequisite   ALH 131 Diseases, Disorders, and Diagnostic Procedures

Prerequisite   ALH 101 Medical Terminology

Prerequisite   ALH 155 Pharmacology for Allied Health

PCT 105 Dementia Care

Course Standard

Course Information

Description   Examines the types and causes of dementia and how they differ from symptoms of the normal aging process. Provides an overview of common behavioral problems associated with dementia as well as the best strategies and approaches for dealing with these problems. Insights into why individuals with dementia behave in erratic ways, and affirms these patients' humanistic value despite such challenging behavior.

Total Credits   4

Total Hours   60

PCT 110 Phlebotomy and Laboratory Procedures

Course Standard

Course Information

Description   This course addresses the role and function of the professional in the clinical laboratory setting. Topics include safety, Clinical Laboratory Improvement Act of 1988 (CLIA-88) government regulations and quality assurance in the laboratory. Students learn concepts and perform procedures in the different departments of the laboratory, including specimen collection and performance of CLIA-88 low- and/or moderate-complexity testing. Students demonstrate competencies in a wide variety of techniques used to collect, process, and test specimens.

Total Credits   4

Total Hours   90

PDV 020 Employability Skills

Course Standard

Course Information

Description   WSU Tech recognized the need to augment technical skills with highly valued employability skills (or soft skills) to ensure that those who attain the job, retain the job once they enter in the professional environment. WSU Tech is working to change the conversation that centers on workforce employability by seeking to provide instruction and training in areas positioned on character development and workplace ethical standards that have previously been described as innate or all together not present in otherwise qualified employment candidates. In this course, students will learn and practice skills of positive attitude, delayed gratification, work ethic and

personal responsibility.

Total Hours   10

PDV 105 Blueprint for Personal Success

Course Standard

Course Information

Description   The professional world is full of challenging situations, including conflicting personalities, miscommunication, and cultural differences. In this course, students will learn about typical workplace etiquette protocols, communication standards, and cultural awareness strategies in order to navigate these common obstacles. This course will prepare students by educating them on the importance of establishing and maintaining their professional image in the workplace. Whether students are working on the manufacturing floor, in a medical facility or in a professional office setting practicing professional etiquette will help ensure that their occupational environment is positive and productive. Students will integrate internal attitudes with external behaviors so that their personal attributes reflect the expectations of their future employers. The course provides a study of human relations and professional development in today's rapidly changing world. The course prepares students for living and working in a complex society through a focus on professionalism, work ethic, teamwork (collaboration) and oral communication. Topics include: Goal Setting, Entry Level Leadership, Communication, Teamwork and Diversity, Career Management, Lifestyle Design, and Disruption in Industry.

Total Credits   2
Total Hours   30

PED 110 Lifetime Fitness

Course Standard

Course Information

Description   Exposes students to facts about and experiences in dealing with motor, physical, physiological, psychological and nutritional aspects of the human being and the responsibility to maintain fitness during a life span.

Total Credits   1
Total Hours   15

PED 120 Introduction to the Athletic Training Profession

Course Standard

Description This course covers introductory principles relating to the profession of athletic training. Students will study organizational and professional responsibilities, injury/illness prevention techniques, characteristics of sports injuries, immediate care, treatment/rehabilitation, and various sports injuries.

Total Credits 3

Total Hours 45

PHL 110 Ethics

Course Standard

Course Information

Description A practical approach to recognizing, understanding and solving ethical problems confronting individuals in today's society. Basic concepts of applied ethical theories in moral philosophy and reasoning are examined using critical thinking and responsible decision-making skills.

Total Credits 3

Total Hours 45

PHL 115 Logic

Course Standard

Course Information

Description This course deals with the uses of logical concepts and techniques to evaluate and criticize reasoning. Studies some elementary systems of formal logic. Arguments evaluated are drawn from such diverse fields as law, science, politics, religion, and advertising.

Total Credits 3

Total Hours 45

PHR 105 Negotiations And Relationship Management

Course Standard

Course Information

Description This course is designed to help students understand the principles, strategies and

tactics of effective negotiation and relationship management. Students will learn to identify and assess negotiation variables, develop an effective negotiation plan and implement various strategies and tactics to ethically resolve conflicts and interpersonal differences.

Total Credits   3

Total Hours   45

PHS 110 Physical Science

Course Standard

Course Information

Description   A non-technical course intended for students who are majoring in fields other than science. The application of scientific knowledge to daily life activities is emphasized by examining the fundamental principles in physics, chemistry, geology and astronomy utilizing the scientific method.

Total Credits   5

Total Hours   105

PHS 115 Introductory Astronomy

Course Standard

Course Information

Description   Introduction to Astronomy topics include fundamental concepts (planetary, stellar, and lunar motion; gravitation; light and telescopes); solar system 1 (Earth, Moon, Mercury, Venus, and Mars); solar system 2 (Jupiter and satellites, Saturn and satellites, outer planets); stars (nature of stars, birth, evolution and death of stars, neutron stars, black holes); universe (galaxies, quasars, blazars, cosmology).

Total Credits   5

Total Hours   105

PHS 120 General Physics I

Course Standard

Course Information

Description   Topics include mechanics — linear motion, rotational motion, force, work, energy, momentum and conservation principles; heat-temperature, ideal gas, eating as a form of energy, first law of thermodynamics, second law of thermodynamics and entropy; and wave motion — simple harmonic motion, elasticity and the wave equation. This class is designed for students who need five hours of physics without calculus.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   MTH 112 College Algebra

PHS 125 General Physics II

Course Standard

Course Information

Description   A continuation of PHS 120 General Physics I. Topics include electricity and magnetism, electric potential, current electric power, magnetic field and induction; optics nature of light and wave optics; and modern physics special relativity, atomic structure, quantum mechanics and radioactivity. This class is taught in the spring of the year

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   PHS 120 General Physics I

PLT 104 Introduction to Aviation

Course Standard

Course Information

Description   This course will expose the student to knowledge areas of emphasis pertaining to FAA regulations, accident reporting, chart usage, navigation, radio communications, weather, collision avoidance, aerodynamics, systems, weight and balance, stall awareness, aeronautical decision making, preflight and ground operations. Successful completion of this course will provide the student with all information necessary to successfully pass the required FAA written exam for Airplane Single Engine Land (ASEL) and be adequately prepared for the oral portion of the required practical test.

Total Credits	3
Total Hours	45

Pre/Corequisites

Corequisite   PLT 112 Private Pilot Flight Lab

PLT 108 Simulated Flight Lab I

Course Standard

Course Information

Description   This course provides the student the opportunity to gain familiarity with the FMS and aircraft operations. The course allows the student to rehearse all required maneuvers defined by the FAA to successfully complete the Private Pilot Practical Flight Exam.

Total Credits	1
Total Hours	15

Pre/Corequisites

Corequisite   PLT 112 Private Pilot Flight Lab

Corequisite   PLT 104 Introduction to Aviation

PLT 112 Private Pilot Flight Lab

Course Standard

Course Information

Description   This course will enable the student to develop the knowledge and skills required to safely exercise the privileges and responsibilities of a Private Pilot and pass the Private Pilot Practical Flight Exam. Course content includes instruction in aerodynamics, aircraft systems, FAA regulations, U.S. Airspace System, weight and balance, aircraft performance, aviation weather, flight publications, radio navigation, cross-country planning and navigation, basic flight physiology, and flight safety.

Total Credits	2
Total Hours	45

Pre/Corequisites

PLT 116 Aviation Weather

Course Standard

Course Information

Description   This course entails the study of weather hazards, meteorological flight planning, aviation weather equipment and human factors in weather flying safety. Elements of the atmosphere with emphasis on those processes that affect the global atmospheric circulation, and meteorology as it applies to the operation of aircraft with emphasis on observation of weather elements and interpretation of flight planning weather information will be emphasized.

Total Credits   3
Total Hours   45

PLT 120 Instrument Regulations and Procedures

Course Standard

Course Information

Description   This course will provide the student with a detailed study of the regulations, procedures, publications, and weather considerations necessary for operating IFR in the national airspace system. Terminal and enroute procedures will be studied in detail. Successful completion of this course will provide the student with all information necessary to successfully pass the required FAA written exam and be adequately prepared for the oral portion of the practical test required.

Total Credits   3
Total Hours   45

Pre/Corequisites

Corequisite   PLT 128 Basic Attitude Instrument Flying
Prerequisite   PLT 112 Private Pilot Flight Lab

PLT 124 Simulated Flight Lab II

Course Standard

Course Information

Description   This course provides the student the opportunity to rehearse aircraft control solely by referencing the instruments, enter flight plans and procedures, and learn to operate

their flight management system effectively during flight. Familiarization with avionics utilization is a central focus of this lab.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   PLT 112 Private Pilot Flight Lab

Corequisite   PLT 120 Instrument Regulations and Procedures

Corequisite   PLT 128 Basic Attitude Instrument Flying

PLT 128 Basic Attitude Instrument Flying

Course Standard

Course Information

Description This course will introduce the student to the skills required to fly the airplane solely by referencing the instruments in the panel. Performing the four basics of flight, timed turns, unusual attitude recovery, navigation by VOR and GPS, performing both precision and non-precision approaches, as well as planning and executing cross country flight will prepare the student to successfully meet the standards set forth by the FAA to earn the Instrument Rating.

Total Credits 2

Total Hours 45

Pre/Corequisites

Corequisite   PLT 120 Instrument Regulations and Procedures

Prerequisite   PLT 112 Private Pilot Flight Lab

PLT 130 Aerodynamics and Aircraft Performance

Course Standard

Course Information

Description In this course students will learn principles of airplane aerodynamics and aircraft performance.

Total Credits 2

Total Hours 30

PLT 132 Aviation Safety and Human Factors

Course Standard

Course Information

Description This course provides the student with a detailed introduction into aspects of aviation safety, aviation safety programs, risk management, and the associated components of pilot psychology, physiology, human factors, and accident review and investigation. This course also introduces the student to issues influencing human performance in the complex operational aviation environments. Theory and practical applications of cognitive processing, decision-making, interpersonal interaction and

communication will be presented. This course also provides an introduction to design elements intended to optimize man-machine interaction.

Total Credits   3

Total Hours   45

PLT 134 Aircraft Systems for Pilots

Course Standard

Course Information

Description   In this course students will learn the aircraft systems as they relate to reciprocating, turbine, and jet engines.

Total Credits   2

Total Hours   30

PLT 136 Crew Resource Management

Course Standard

Course Information

Description   This course will provide the student the opportunity to explore the many issues involved in Crew Resource Management. It will expose the student to issues involved with communication, situational awareness, pilot judgement, risk assessment and mitigation, and workload management. Students will practice various models of risk assessment and mitigation as well as learn how to properly utilize all available resources in order to conduct a safe and efficient flight both solo and as part of a crew.

Total Credits   2

Total Hours   30

PLT 140 Avionics

Course Standard

Course Information

Description   This course provides the student an overview of the Garmin G1000 Glass cockpit and explores the use of advanced technology in the field of aviation. It also exposes the student to future technologies and their impact on the aviation industry. Topics include flight management systems, geospatial referencing systems, airspace information as well as control systems (ADS-B and NextGen).

Total Credits   2

Total Hours   30

PLT 144 Introduction to Commercial Flight

Course Standard

Course Information

Description   This course provides the student exposure to the aeronautical knowledge areas required by FAA regulations for a Commercial Pilot Certificate (ASEL). Successful completion of the course will provide the student with all information necessary to successfully pass the required FAA written exam and be adequately prepared for the oral portion of the practical test required.

Total Credits   3

Total Hours   45

Pre/Corequisites

Corequisite   PLT 152 Commercial Flight Lab

Prerequisite   PLT 128 Instrument Flight Lab

PLT 146 Air Traffic Control and Airspace

Course Standard

Course Information

Description   This course is designed to provide students with the information about the Air Traffic Management and Control Systems (ATC) and the US National Airspace System which is critical to the success of Pilots.

Total Credits   2

Total Hours   30

PLT 148 Simulated Flight Lab III

Course Standard

Course Information

Description   This course allows the student to rehearse all required maneuvers defined by the FAA to successfully complete the Commercial Pilot Practical Flight Exam.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   PLT 128 Basic Attitude Instrument Flying

Corequisite   PLT 144 Introduction to Commercial Flight

Corequisite   PLT 152 Commercial Flight I

PLT 152 Commercial Flight I

Course Standard

Course Information

Description   This course will introduce the student to all commercial maneuvers and standards. The student will also build hours towards minimum time requirements required to successfully pass the Commercial Pilot Practical Exam.

Total Credits   3

Total Hours   75

Pre/Corequisites

Corequisite   PLT 144 Introduction to Commercial Flight

Prerequisite   PLT 128 Basic Attitude Instrument Flying

PLT 154 Aviation Law and Regulations

Course Standard

Course Information

Description   In this course students will explore and apply the Federal Aviation Regulations, contained in Title 14 of the Code of Federal Regulations.

Total Credits   2

Total Hours   30

PLT 156 Multiengine Aircraft Operation

Course Standard

Course Information

Description	This course is designed to develop the knowledge and skills necessary to safely and proficiently exercise the privileges and responsibilities of a Commercial Pilot with a Multi-engine rating. Included are discussions concerning Aeronautical Decision Making of multi-engine aircraft systems, aerodynamics, Crew Resource Management, weight and balance, aircraft performance, and abnormal/emergency procedures. The course also includes a scenario - based introduction to U.S. Title 14 Code of Federal Regulations (CFR) governing common carriage commercial operations.

Total Credits   1

Total Hours   15

Pre/Corequisites

Corequisite   PLT 160 Multiengine Flight Lab

Prerequisite   PLT 128 Instrument Flight Lab

PLT 160 Multiengine Flight Lab

Course Standard

Course Information

Description	This course provides the practical experience necessary for the student to demonstrate safe operation of a multi-engine aircraft, as well as demonstrate knowledge of best single engine rate of climb (Vyse) and Minimum Control Speed (Vmc). The student will learn how to determine engine failure, demonstrate aircraft control with a simulated engine failure, and perform Instrument approaches during simulated engine failure. The tasks in this course will prepare the student to successfully pass the Multi-Engine Airplane (AMEL) exam.

Total Credits   2

Total Hours   60

Pre/Corequisites

Corequisite   PTL 156 Multiengine Aircraft Operation

PLT 164 Commercial Flight II

Course Standard

Course Information

Description   This course enables the student to complete all cross country and time requirements needed to meet minimum standards to sit for the Commercial Pilot Practical Exam.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   PLT 152 Commercial Flight I

Corequisite   PLT 168 Certified Flight Instruction

PLT 168 Certified Flight Instruction

Course Standard

Course Information

Description   Provides the student with a detailed study of the responsibilities and teaching concerns of a flight instructor. The course is divided into two major sections: fundamentals of teaching and learning, including effective teaching methods, learning process, consideration of flight training syllabi, effective evaluations, and flight instructor responsibilities; the second section is concerned with the analysis of the flight maneuvers involved with Private Pilot, Commercial Pilot and Flight Instructor Certificates.

Total Credits   4

Total Hours   60

Pre/Corequisites

Prerequisite   PLT 152 Commercial Flight Lab

PLT 172 Simulated Flight Lab IV

Course Standard

Course Information

Description   This course allows the student to practice and refine skills necessary to act as a Certified Flight Instructor. Emphasis on familiarization with sight picture flying in the right seat, teaching and demonstrating all required flight maneuvers simultaneously. This lab will assist the student in meeting the requirements to successfully pass the FAA exam for Certified Flight Instructor.

Total Credits   1

Total Hours   30

Pre/Corequisites

Corequisite   PLT 164 Commercial Flight II

Corequisite   PLT 168 Certified Flight Instruction

Prerequisite   PLT 152 Commercial Flight I

PLT 176 Certified Flight Instruction Lab

Course Standard

Course Information

Description   This course will provide practical teaching experience for the student during flight as they demonstrate skills flying in the right seat, teaching and demonstrating all required flight maneuvers simultaneously to successfully pass the FAA Practical Exam for Certified Flight Instructor.

Total Credits   2

Total Hours   60

Pre/Corequisites

Prerequisite   PLT 152 Commercial Flight Lab

PLT 180 Gas Turbine Engine Systems

Course Standard

Course Information

Description   This course will provide an in-depth examination of the turbine engine through the study of its development, theory of operation and the function of turbine engine components.

Total Credits   2

Total Hours   30

PNA 101 IV Therapy for LPN's

Course Standard

Course Information

Description   Prepares LPNs to perform activities as defined in KAR 60-16-102(b). Presents knowledge, skills, and competencies in the administration of intravenous fluid therapy, which will qualify LPNs to perform this procedure safely.

Total Credits   3

Total Hours   45

PNA 105 Adult Learning Principles for Health Careers

Course Standard

Course Information

Description   This course will provide learners with basic adult learning principles utilized in teaching. The course is intended to meet the requirements from the Kansas Department for Aging & Disability Services for instructors to teach Nurse Aide courses, and would also be of benefit the novice in higher education.

Total Credits   2

Total Hours   30

PNR 010 Nursing Recitation

Course Standard

Course Information

Description   Provides homework help and tutoring services and connects practical nurse students to a practical nurse instructor outside of general program class hours.

Total Hours   105

PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration

Course Standard

Course Information

Description	This course provides an introduction to the principles of pharmacology. Emphasis is placed on nursing care related to the safe calculation and administration of medications to clients across the lifespan.

Total Credits	2
Total Hours	45

Pre/Corequisites

Prerequisite	ALH 110 Principles of Nutrition
Prerequisite	BIO 150 Human Anatomy & Physiology
Prerequisite	PSY 101 General Psychology
Prerequisite	PSY 120 Developmental Psychology
Prerequisite	PNR 136 Transition to Nursing
Corequisite	PNR 120 KSPN Foundations of Nursing
Corequisite	PNR 121 KSPN Foundations of Nursing Clinical
Corequisite	PNR 128 KSPN Nursing Care of Adults I
Corequisite	PNR 129 KSPN Nursing Care of Adults I Clinical

PNR 120 KSPN Foundations of Nursing

Course Standard

Course Information

Description	This course provides an introduction to practical nursing and roles of the practical nurse as well as profession- and client-related care concepts. Emphasis is placed on the knowledge and skills needed to provide safe, quality care. The theoretical foundation for basic data collection and nursing skills is presented and an introduction to the nursing process provides the student with a framework for decision making.

Total Credits	4
Total Hours	60

Pre/Corequisites

Prerequisite	ALH 110 Principles of Nutrition

Prerequisite	BIO 150 Human Anatomy & Physiology
Prerequisite	PSY 101 General Psychology
Prerequisite	PSY 120 Developmental Psychology
Prerequisite	PNR 136 Transition to Nursing
Corequisite	PNR 121 KSPN Foundations of Nursing Clinical
Corequisite	PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration

PNR 121 KSPN Foundations of Nursing Clinical

Course Standard

Course Information

| Description | This course provides an introduction to the skills required to practice nursing. The theoretical foundation for basic data collection and nursing skills is presented and the student is given an opportunity to demonstrate these skills in a clinical laboratory setting. Students are also given an opportunity to practice application of the nursing process to client-related situations. |

| Total Credits | 2 |
| Total Hours | 90 |

Pre/Corequisites

Prerequisite	ALH 110 Principles of Nutrition
Prerequisite	BIO 150 Human Anatomy & Physiology
Prerequisite	PSY 101 General Psychology
Prerequisite	PSY 120 Developmental Psychology
Prerequisite	PNR 136 Transition to Nursing
Corequisite	PNR 120 KSPN Foundations of Nursing
Corequisite	PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration

PNR 128 KSPN Nursing Care of Adults I

Course Standard

Course Information

Description	This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cardiac output and tissue perfusion, oxygenation, regulation and metabolism, and integument. Principles of pre-and post-operative care and IV therapy are also addressed.

Total Credits   5

Total Hours   75

Pre/Corequisites

Prerequisite   PNR 120 KSPN Foundations of Nursing

Prerequisite   PNR 121 KSPN Foundations of Nursing Clinical

Corequisite   PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration

Corequisite   PNR 129 KSPN Nursing Care of Adults I Clinical

PNR 129 KSPN Nursing Care of Adults I Clinical

Course Standard

Course Information

Description	This course focuses on the care of adult clients with common medical/surgical health alterations. The clinical laboratory experience gives students the opportunity to apply theoretical concepts from Nursing Care of Adults I and implement safe client care in selected settings.

Total Credits   3

Total Hours   135

Pre/Corequisites

Prerequisite   PNR 120 KSPN Foundations of Nursing

Prerequisite   PNR 121 KSPN Foundations of Nursing Clinical

Corequisite   PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration

Corequisite   PNR 128 KSPN Nursing Care of Adults I

PNR 130 KSPN Maternal Child Nursing

Course Standard

Course Information

Description	This course provides an integrative, family-centered approach to the care of childbearing women, newborns, and children. Emphasis is placed on the care of the pregnant woman and newborn, normal growth and development, and common pediatric disorders.
Total Credits	2
Total Hours	30

Pre/Corequisites

Prerequisite	PNR 120 KSPN Foundations of Nursing
Prerequisite	PNR 121 KSPN Foundations of Nursing Clinical
Prerequisite	PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Adminstration
Prerequisite	PNR 128 KSPN Nursing Care of Adults I
Prerequisite	PNR 129 KSPN Nursing Care of Adults I Clinical
Corequisite	PNR 138 KSPN Nursing Care of Adults II
Corequisite	PNR 139 KSPN Nursing Care of Adults II Clinical
Corequisite	PNR 131 KSPN Maternal Child Nursing Clinical
Corequisite	PNR 141 KSPN Care of Aging Adults
Corequisite	PNR 135 KSPN Mental Health Nursing
Corequisite	PNR 166 KSPN Leadership, Roles, and Issues

PNR 131 KSPN Maternal Child Nursing Clinical

Course Standard

Course Information

Description	This course provides an integrative, family-centered approach to the care of childbearing women, newborns, and children. Students are given the opportunity to observe the uncomplicated birth process and practice postpartum care as well as care of the newborn in the clinical laboratory setting. Common pediatric diseases and the growth and development process is the focus of child-related clinical laboratory experiences.
Total Credits	1
Total Hours	45

Pre/Corequisites

Prerequisite	PNR 120 KSPN Foundations of Nursing
Prerequisite	PNR 121 KSPN Foundations of Nursing Clinical
Prerequisite	PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration
Prerequisite	PNR 128 KSPN Nursing Care of Adults I
Prerequisite	PNR 129 KSPN Nursing Care of Adults I Clinical
Corequisite	PNR 130 KSPN Maternal Child Nursing
Corequisite	PNR 138 KSPN Nursing Care of Adults II
Corequisite	PNR 139 KSPN Nursing Care of Adults II Clinical
Corequisite	PNR 141 KSPN Care of Aging Adults
Corequisite	PNR 135 KSPN Mental Health Nursing
Corequisite	PNR 166 KSPN Leadership, Roles, and Issues

PNR 135 KSPN Mental Health Nursing

Course Standard

Course Information

Description	This course explores basic concepts and trends in mental health nursing. Therapeutic modalities and client behavior management are discussed. Emphasis is placed on using the nursing process and meeting the basic human needs of the client with a mental health disorder.

Total Credits	2
Total Hours	30

Pre/Corequisites

Prerequisite	PNR 120 KSPN Foundations of Nursing
Prerequisite	PNR 121 KSPN Foundations of Nursing Clinical
Prerequisite	PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration
Prerequisite	PNR 128 KSPN Nursing Care of Adults I
Prerequisite	PNR 129 KSPN Nursing Care of Adults I Clinical
Corequisite	PNR 130 KSPN Maternal Child Nursing
Corequisite	PNR 131 KSPN Maternal Child Nursing Clinical
Corequisite	PNR 138 KSPN Nursing Care of Adults II
Corequisite	PNR 139 KSPN Nursing Care of Adults II Clinical
Corequisite	PNR 141 KSPN Care of Aging Adults
Corequisite	PNR 166 KSPN Leadership, Roles, and Issues

PNR 136 Transition to Nursing

Course Standard

Course Information

Description   This course is designed to provide skills to enhance the success of the practical nurse student. It will include study skills, time management, social awareness skills, an introduction to critical thinking, APA format, review of PN policies and procedures, and learning in a hybrid/online format

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   ALH 110 Principles of Nutrition

Prerequisite   BIO 150 Human Anatomy & Physiology

Prerequisite   PSY 101 General Psychology

Prerequisite   PSY 120 Developmental Psychology

PNR 138 KSPN Nursing Care of Adults II

Course Standard

Course Information

Description   This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cognition and sensation, mobility, elimination, immunity and hematology, and reproduction. Principles related to emergency preparedness are also addressed.

Total Credits   5

Total Hours   75

Pre/Corequisites

Prerequisite   PNR 120 KSPN Foundations of Nursing

Prerequisite   PNR 121 KSPN Foundations of Nursing Clinical

Prerequisite   PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration

Prerequisite   PNR 128 KSPN Nursing Care of Adults I

Prerequisite   PNR 129 KSPN Nursing Care of Adults I Clinical

Corequisite   PNR 139 KSPN Nursing Care of Adults II Clinical

Corequisite	PNR 130 KSPN Maternal Child Nursing
Corequisite	PNR 131 KSPN Maternal Child Nursing Clinical
Corequisite	PNR 135 KSPN Mental Health Nursing
Corequisite	PNR 141 KSPN Care of Aging Adults
Corequisite	PNR 166 KSPN Leadership, Roles, and Issues

PNR 139 KSPN Nursing Care of Adults II Clinical

Course Standard

Course Information

Description	This course focuses on the care of adult clients with common medical/surgical health problems. The clinical laboratory experience provides the student an opportunity to build on the theoretical concepts from Nursing Care of Adults I and II and implement safe client care in selected settings. Students are given the opportunity to practice leadership skills while managing a caseload of clients.

Total Credits	2
Total Hours	90

Pre/Corequisites

Prerequisite	PNR 120 KSPN Foundations of Nursing
Prerequisite	PNR 121 KSPN Foundations of Nursing Clinical
Prerequisite	PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration
Prerequisite	PNR 128 KSPN Nursing Care of Adults I
Prerequisite	PNR 129 KSPN Nursing Care of Adults I Clinical
Corequisite	PNR 138 KSPN Nursing Care of Adults II
Corequisite	PNR 130 KSPN Maternal Child Nursing
Corequisite	PNR 131 KSPN Maternal Child Nursing Clinical
Corequisite	PNR 135 KSPN Mental Health Nursing
Corequisite	PNR 141 KSPN Care of Aging Adults
Corequisite	PNR 166 KSPN Leadership, Roles, and Issues

PNR 141 KSPN Care of Aging Adults

Course Standard

Course Information

Description   This course is designed to explore issues related to the aging adults. Course content addresses the impact of ageism, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients across a continuum of care.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite	PNR 120 KSPN Foundations of Nursing
Prerequisite	PNR 121 KSPN Foundations of Nursing Clinical
Prerequisite	PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration
Prerequisite	PNR 128 KSPN Nursing Care of Adults I
Prerequisite	PNR 129 KSPN Nursing Care of Adults I Clinical
Corequisite	PNR 138 KSPN Nursing Care of Adults II
Corequisite	PNR 139 KSPN Nursing Care of Adults II Clinical
Corequisite	PNR 130 KSPN Maternal Child Nursing
Corequisite	PNR 131 KSPN Maternal Child Nursing Clinical
Corequisite	PNR 166 KSPN Leadership, Roles, and Issues
Corequisite	PNR 135 KSPN Mental Health Nursing

PNR 166 KSPN Leadership, Roles, and Issues

Course Standard

Course Information

Description   This course provides orientation to leadership roles of the LPN and related responsibilities. It will introduce issues to the student they will encounter in the workplace.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite	PNR 120 KSPN Foundations of Nursing
Prerequisite	PNR 121 KSPN Foundations of Nursing Clinical
Prerequisite	PNR 119 KSPN Fundamentals of Pharmacology and Safe Medication Administration
Prerequisite	PNR 128 KSPN Nursing Care of Adults I
Prerequisite	PNR 129 KSPN Nursing Care of Adults I Clinical

Corequisite	PNR 138 KSPN Nursing Care of Adults II
Corequisite	PNR 139 KSPN Nursing Care of Adults II Clinical
Corequisite	PNR 130 KSPN Maternal Child Nursing
Corequisite	PNR 131 KSPN Maternal Child Nursing Clinical
Corequisite	PNR 135 KSPN Mental Health Nursing
Corequisite	PNR 141 KSPN Care of Aging Adults

PNR 170 Healthcare Practice Management

Course Standard

Course Information

Description	This course explores the overall perspective of health service organizations and the associated managerial role. The student will be able to utilize practical building blocks for managerial growth. The student will discuss the involvement of future roles for healthcare providers and outside forces that impact management of a healthcare component.

Total Credits	3
Total Hours	45

Pre/Corequisites

Prerequisite	PNR 120 KSPN Foundations of Nursing
Prerequisite	PNR 121 KSPN Foundations of Nursing Clinicals
Prerequisite	PNR 122 KSPN Pharmacology
Prerequisite	PNR 123 KSPN Medical Surgical Nursing I
Prerequisite	PNR 124 KSPN Medical Surgical Nursing I Clinical
Prerequisite	PNR 126 KSPN Medical Surgical Nursing II
Prerequisite	PNR 127 KSPN Medical Surgical Nursing II Clinical
Prerequisite	PNR 130 KSPN Maternal Child Nursing
Prerequisite	PNR 131 KSPN Maternal Child Nursing Clinical
Prerequisite	PNR 132 KSPN Gerontology Nursing
Prerequisite	PNR 134 Role Development
Prerequisite	PNR 135 KSPN Mental Health Nursing
Prerequisite	PNR 136 Transition to Nursing

PNR 175 Healthcare Management Research

Course Standard

Course Information

Description	This course explores management issues, funding and actual provision of healthcare by various entities. The student will research and discuss the role of management in healthcare. The student will complete projects that expand on specific areas of individual interest in administration and management.

Total Credits	4
Total Hours	60

Pre/Corequisites

Prerequisite	PNR 120 KSPN Foundations of Nursing
Prerequisite	PNR 121 KSPN Foundations of Nursing Clinicals
Prerequisite	PNR 122 KSPN Pharmacology
Prerequisite	PNR 123 KSPN Medical Surgical Nursing I
Prerequisite	PNR 124 KSPN Medical Surgical Nursing I Clinical
Prerequisite	PNR 126 KSPN Medical Surgical Nursing II
Prerequisite	PNR 127 KSPN Medical Surgical Nursing II Clinical
Prerequisite	PNR 130 KSPN Maternal Child Nursing
Prerequisite	PNR 131 KSPN Maternal Child Nursing Clinical
Prerequisite	PNR 132 KSPN Gerontology Nursing
Prerequisite	PNR 134 Role Development
Prerequisite	PNR 135 KSPN Mental Health Nursing
Prerequisite	PNR 136 Transition to Nursing

PNR 180 Healthcare Issues

Course Standard

Course Information

Description   This course explores current issues in healthcare and the impact of those issues on society. The student will discuss specific pieces of legislation, regulatory initiatives, public concern issues, funding and actual provision of healthcare by various entities. The student will complete projects that expand on specific areas of individual interest.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite	PNR 120 KSPN Foundations of Nursing
Prerequisite	PNR 121 KSPN Foundations of Nursing Clinicals
Prerequisite	PNR 122 KSPN Pharmacology
Prerequisite	PNR 123 KSPN Medical Surgical Nursing I
Prerequisite	PNR 124 KSPN Medical Surgical Nursing I Clinical
Prerequisite	PNR 126 KSPN Medical Surgical Nursing II
Prerequisite	PNR 127 KSPN Medical Surgical Nursing II Clinical
Prerequisite	PNR 130 KSPN Maternal Child Nursing
Prerequisite	PNR 131 KSPN Maternal Child Nursing Clinical
Prerequisite	PNR 132 KSPN Gerontology Nursing
Prerequisite	PNR 134 Role Development
Prerequisite	PNR 135 KSPN Mental Health Nursing
Prerequisite	PNR 136 Transition to Nursing

POL 101   American Government

Course Standard

Course Information

Description   A general study of the development, structure and functions of the American National Government. Topics to be studied include an introduction to government, principles of constitutionalism and federalism, political parties and political behavior, the Presidency, congress, the judiciary and the federal bureaucracy, Of specific emphasis is an analysis of decision-making in government, public participation and influence in government as well as a study of specific problems concerning the operation of the federal government.

Total Credits   3

Total Hours   45

PSS 100 Six Sigma Yellow Belt

Course Standard

Course Information

Description   Six Sigma Yellow Belt training introduces the fundamentals of Six Sigma to individual process owners and operators who can then act as team members on Six Sigma projects. Not only do these Yellow Belts gain the skills necessary to identify, monitor and control profit-eating practices in their own processes, but they are also prepared to feed that information to Green Belts and Black Belts working on larger system projects.

Total Credits   1

Total Hours   15

PSS 101 Six Sigma Green Belt Methods

Course Standard

Course Information

Description   This course is designed to help the adult learner understand Six Sigma concepts and be able to apply their knowledge to a real problem. It also addresses the challenges of change management and data management.

Total Credits   3

Total Hours   45

PSS 105 Six Sigma Green Belt Statistics

Course Standard

Course Information

Description   Students develop an in-depth understanding of how computers and statistical software are essential components in the business world and society in general for exploring data in depth, data simulation, screening data for errors, manipulating data, performing transformations, focus on the use of the computer and statistical software as a valuable productivity and data analysis tool.

Total Credits   3

Total Hours 45

PSS 115 Six Sigma Black Belt Methods

Course Standard

Course Information

Description The Six Sigma Black Belt Methods incorporates data and statistical analysis into a project based workflow that allows businesses to make intelligent decisions about where and how to incorporate improvements.

Total Credits 3

Total Hours 45

Pre/Corequisites

Prerequisite PSS101 Six Sigma Green Belt Methods

Prerequisite PSS105 Six Sigma Green Belt Statistics

PSS 120 Six Sigma Black Belt Experimentation & Transfer Function

Course Standard

Course Information

Description Students will learn how to manipulate data with statistical tools to transform it into valuable information (numeric and/or graphic). This data will be incorporated into a project.

Total Credits 3

Total Hours 45

Pre/Corequisites

Prerequisite PSS115 Six Sigma Black Belt Methods

PST 010 Private Security Officer Training - Basic

Course Standard

Course Information

Description   The Basic Private Security Officer Training (Basic PSOT) course is a 16 hour course designed to train Security Officers in basic duties and requirements of a security officer in compliance with the Wichita City Code.

Total Hours   16

PST 110 Private Security Officer Training - Basic

Course Standard

Course Information

Description   The Basic Private Security Officer Training (Basic PSOT) course is a 45 hour course designed to train Security Officers in basic duties and requirements of a security officer in compliance with the Wichita City Code.

Total Credits   3
Total Hours   45

PSY 101 General Psychology

Course Standard

Course Information

Description   A general introduction to the scientific study of behavior and mental processes to enable students to apply the knowledge they gain about the history of psychology, psychological perspectives, biological bases of behavior, sensation and perception, learning, cognition, intelligence, motivation, development, personality, psychological disorders and treatments of disorders, social psychology and critical thinking skills to enhance the quality of his/her life as he/she interacts with others and the environment.

Total Credits   3
Total Hours   45

PSY 110 Child Psychology

Course Standard

Course Information

Description   This course is a scientific study of child behavior and development from the prenatal period through adolescence. This includes special emphasis in topics of physical development, cognitive and language development, social-emotional development and attachment, socialization, and practical applications of discipline and child rearing.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   PSY 101 General Psychology

PSY 120 Developmental Psychology

Course Standard

Course Information

Description   A study of individual development from conception through death to enable students to apply the knowledge they gain about the general areas of biological, neurological, physical, cognitive, social, emotional and personality development at each stage of life to enhance more meaningful interactions with others and better understanding of his/herself.

Total Credits   3

Total Hours   45

Pre/Corequisites

Prerequisite   PSY 101 General Psychology

PSY 135 Social Science Prospectus

Course Standard

Course Information

Description   The social sciences provide various perspectives on how we view the behavior of individuals and society. The predominant research of individuals, families, and larger society is done through the scope of the social sciences, particularly psychology, geography, and sociology. In this class, students will examine the relevance of social science within historical and current issues, develop evidence-based questions about human behavior, and explore prevalent research approaches and their findings.

Total Credits   3

Total Hours   45

ROB 100 Introduction to Robotics

Course Standard

Course Information

Description   This course explores basic robotic concepts. Studies robots in typical application environments. Topics include: robot history and fundamentals, robot classification, power sources, robot applications in the workplace, robot control techniques, path control, end of arm tooling, robot operation and robot controllers, controller architecture in a system, robotic language programming, and human interface issues.

Total Credits   3

Total Hours   75

ROB 103 Applied Robotics Lab I

Course Standard

Course Information

Description   In this course students will learn basic robotic applications and devices utilized in automated systems. Using hands on step by step approach students will program different types of robots and interface the robots and controllers within parameters defined by the instructor and the application.

Total Credits   4

Total Hours   105

ROB 104 Robotics Simulation

Course Standard

Course Information

Description This course provides the student an introduction to robotic simulation using industry current software. Students will learn to build computer simulated models of robotic work cells.

Total Credits 2

Total Hours 45

Pre/Corequisites

Prerequisite ROB 100 Introduction to Robotics

ROB 106 Robotics Controller Maintenance

Course Standard

Course Information

Description This course will provide the student with basic skills and techniques used in the maintenance and repair of robotic/automated equipment.

Total Credits 1

Total Hours 30

Pre/Corequisites

Prerequisite ROB 103 Applied Robotics Lab I

ROB 115 Introduction to Programming Robots in ROS

Course Standard

Course Information

Description	In this course students will become familiar with the basic programming languages used in Robotics; Python, Linux, and C++. Students will practice programming and applying different programs in the Robot Operating System (ROS) to help Robots move and interpret reference frames. The course will conclude with students applying their knowledge of the programming languages to the design and simulation of a robot.

Total Credits	4
Total Hours	90

Pre/Corequisites

Corequisite   MTH 112 College Algebra

ROB 118 Basic Circuits

Course Standard

Course Information

Description	This course introduces direct current (DC) concepts and applications and the theory and application of varying sense wave voltages and current. Topics include: electrical principles and laws; batteries; DC test equipment; series, parallel and simple combination circuits; magnetism, AC wave generation, AC test equipment, inductance, capacitance, and basic transformers, and laboratory procedures and safety practices.

Total Credits	3
Total Hours	75

Pre/Corequisites

Corequisite   MTH 112 College Algebra

ROB 120 IoT Fundamentals: Introduction to the Internet of Things

Course Standard

Course Information

Description	In this course, students learn about Internet of Things and how it enables Digital Transformation along with emerging technologies such as data analytics, artificial intelligence, and the increased attention on cybersecurity. Students will also understand the basics of Intent Based Networking that uses software-driven approach and machine learning to be able to connect and secure new devices with ease.
Total Credits	1
Total Hours	30

ROB 124   Robotic Navigation

Course Standard

Course Information

Description	In this course, students will learn how to properly navigate robots using ROS. Navigation allows mobile robots to move around autonomously and an essential element in multiple industrial fields including warehousing, commercial, consumer, and entertainment. Students will learn the key components of ROS Navigation and how to use it in robot projects.
Total Credits	2
Total Hours	45

Pre/Corequisites

Prerequisite   ROB 115 Introduction to Programming Robots in ROS

ROB 128 Basic PLC

Course Standard

Course Information

Description	This course introduces operational theory, systems terminology, PLC installations, and programming procedures for programmable logic controls. Emphasis is placed on PLC programming, connections, installations, and start-up procedures. Topics include: PLC hardware and software, PLC functions and terminology, PLC

installation and set up, PLC programming basics, relay logic instructions, timers and counters, connecting field devices to I/O cards, and PLC safety procedures.

Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite   ROB 118 Basic Circuits

ROB 130 IoT Fundamentals: Connected Things

Course Standard

Course Information

Description   This course will prepare students with the technical and soft skills needed to ideate, design, prototype, and present the business value of an end-to-end IoT solution. The typical end-to-end solution will include sensors and actuators, gateways, wired and wireless network connections and cloud services.

Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite   ROB 120 IoT Fundamentals: Introduction to the Internet of Things

ROB 134 Robotic Perception and Manipulation

Course Standard

Course Information

Description   In this course, students will learn and become competent in the concepts necessary to get a robot to perceive and manipulate objects in their environment. This course teaches students how to utilize ROS Industrial to achieve these goals in various settings.

Total Credits	4
Total Hours	90

Pre/Corequisites

Prerequisite   ROB 124 Robotic Navigation

ROB 138 Advanced PLC

Course Standard

Course Information

Description   This course examines types, installation and troubleshooting of programmable logic controllers (PLC). Hardware and programming aspects, as well as ladder logic symbols and operations necessary to develop a PLC program are covered in this course.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   ROB 128 Basic PLC

ROB 140 IoT Fundamentals: Big Data Analytics

Course Standard

Course Information

Description   This course will continue to expand your skills in all aspects of IoT, focusing mainly on data analytics and Big Data Systems. It includes extensive hands-on labs to practice data acquisition from sensors and video cameras, data visualization and an introduction to Machine Learning. This path enhances the communication skills and business acumen of the students by teaching storytelling with data. It introduces the students to the field of Big Data engineering platforms. The capacity to leverage the data analytics in the IoT Solutions is strategically important for value creation and requires the development of specific data analysis skills that are extremely valuable in the market.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   ROB 130 IoT Fundamentals: Connected Things

ROB 144 Machine Learning for Robotics

Course Standard

Course Information

Description   In this course students will utilize Machine Learning to get robots to recognize images, be trained on randomly simulated environments, achieve level 3 autonomy, and operationalize a robot on the CUDA platform.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   ROB 134 Robot Perception and Manipulation

ROB 145 Applied Robotics Lab II

Course Standard

Course Information

Description   In this course students will expand on their experiences from Applied Robotics Lab II. Students will further enhance the robotic applications and integration of PLC's and PC's to robot controllers.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite   ROB 106 Robotics Controller Maintenance

ROB 148 PLC Systems Design and Simulation

Course Standard

Course Information

Description   This course provides a more advanced study of PLC's in manufacturing including Distributed Control Systems (DCS), Supervisory Control and Data Acquisition Systems (SCADA), and advanced programming languages.

Total Credits   3

Total Hours 75

Pre/Corequisites

Prerequisite ROB 138 Advanced PLC

ROB 150 IoT Fundamentals: Security

Course Standard

Course Information

Description The explosive growth of connected IoT devices enables the digitization of industries, but also increases the exposure to security threats. Upon completion students will be able to perform vulnerability and risk assessments, and research and recommend risk mitigation strategies for common security threats in IoT systems.

Total Credits 3

Total Hours 75

Pre/Corequisites

Prerequisite ROB 140 IoT Fundamentals: Big Data Analytics

ROB 155 Advanced Industrial Workcell Programming

Course Standard

Course Information

Description This course explores the fundamentals of work-cell integration and programming. The topics include integration of machine elements, motion control programming, and industrial control networks.

Total Credits 3

Total Hours 75

Pre/Corequisites

Prerequisite ROB 145 Applied Robotics Lab II

ROB 170 Robotics Internship

Course Standard

Course Information

Description   The internship represents an educational strategy linking the classroom with the acquisition of knowledge in the workplace. Through direct observation, reflection and evaluation, students gain an insight into the internship site's work, mission, and audience, how these relate to their academic study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.

Total Credits   3

Total Hours   135

Pre/Corequisites

Prerequisite	ROB 134 Robotic Perception and Manipulation
Prerequisite	ROB 145 Applied Robotics Lab II
Prerequisite	ROB 138 Advanced PLC
Prerequisite	ROB 140 IoT Fundamentals: Big Data Analytics

ROB 172 Robotics Capstone

Course Standard

Course Information

Description   In this project-based course, students will apply the skills and knowledge acquired throughout the Digital Marketing program to a real-world project. In partnership with a local non-profit organization, students will create a digital marketing strategy designed to meet the customer needs. Students will produce a critical reflection on their capstone experience demonstrating how they have addressed specific learning goals. A successful project will include a project presentation to representatives of the non–profit organization, faculty and fellow students.

Total Credits   3

Total Hours   135

Pre/Corequisites

Prerequisite	ROB 134 Robotic Perception and Manipulation
Prerequisite	ROB 145 Applied Robotics Lab II
Prerequisite	ROB 138 Advanced PLC
Prerequisite	ROB 140 IoT Fundamentals: Big Data Analytics

REL 101 New Testament

Course Standard

Course Information

Description   This course is an introduction to history, literature and culture that gave rise to the New Testament from an objective and analytical approach.

Total Credits   3

Total Hours   45

REL 130 World Religions

Course Standard

Course Information

Description   This course provides students an overview of the major world religions, prepares students to identify the differences and similarities between the major tenants of these religions, and helps students develop an appreciation and understanding of religious diversity.

Total Credits   3

Total Hours   45

SAF 101 Safety Orientation/OSHA 10

Course Standard

Course Information

Description   This course provides a fundamental understanding of OSHA Safety for the Construction Industry. Students who successfully complete the course will be issu a Department of Labor (DOL) 10 hour card.

Total Credits   1

Total Hours   15

SAF 110 OSHA 510

Course Standard

Course Information

Description   This course covers OSHA standards, policies, and procedures in the construction industry. Topics include scope and application of the OSHA Construction Standards, construction safety and health principles, and special emphasis on those areas in construction which are most hazardous.

Total Credits   2

Total Hours   32

SAF 130 OSHA 503 Update for General Industry Trainers

Course Standard

Course Information

Description   This course is designed for Outreach Training Program trainers who have completed the OSHA 501 Trainer Course in Occupational Safety and Health Standards for General Industry and who are authorized trainers in the OSHA Outreach Training Program. The course provides students with updates on OSHA General Industry Standards and policy and regulations while offering opportunities to develop effective facilitation skills teaching the 10 and 30 hour General Industry Program classes. The OSHA 501 Trainer Course in Standard for the General Industry must be completed before taking this course.

Total Credits   1

Total Hours   21

SGT 101 Introduction to Surgical Technology

Course Standard

Course Information

Description   This course introduces the role and functions of proper documentation, post and pre-operative case management, professional and self-management, professionalism, and work place management, scope of practice, patient care standards, death and dying issues, legal and ethics dilemma, risk management and safety, basic computer skills and electricity concepts.

Total Credits   4

Total Hours 60

Pre/Corequisites

Prerequisite	BIO 150 Human Anatomy & Physiology
Prerequisite	BIO 160 Microbiology
Prerequisite	CPR 101 CPR for Health Care Providers
Prerequisite	ALH 101 Medical Terminology
Prerequisite	ENG 101 Composition I
Prerequisite	MTH 101 Intermediate Algebra
Prerequisite	SOC 101 Principles of Sociology or PSY 101 General Psychology
Prerequisite	SPH 101 Public Speaking or SPH 111 Interpersonal Communications

SGT 107 Pharmacology for Surgical Technology

Course Standard

Course Information

Description   This course will provide general pharmacologic information, including how medications are measured, what kind of medications are used, what laws pertain to them, how they are labeled, how they are administered to the surgical patient, and an understanding of preoperative and intraoperative anesthesia as it relates to routine and emergency situations.

Total Credits 3

Total Hours 45

Pre/Corequisites

Prerequisite	SGT 101 Introduction to Surgical Technology
Prerequisite	SGT 115 Surgical Procedures I
Prerequisite	SGT 120 Principles and Practices in Surgical Technology
Prerequisite	SGT 140 Principles and Practices in Surgical Technology Lab

SGT 115 Surgical Procedures I

Course Standard

Course Information

Description   Coordinates study of theoretical and practical applications of various surgical procedures. Emphasis is placed on pathology, a methodical approach to surgical procedures and preparation and application of aseptic techniques with extensive

laboratory experience to develop critical skills that are required to function in the operating room environment.

Total Credits	5
Total Hours	105

Pre/Corequisites

Corequisite	SGT120 Principles & Practices in Surgical Technology

SGT 119 Surgical Technology - Clinical Experience I

Course Standard

Course Information

Description   Coordinates study of theoretical and practical applications of various surgical procedures. Emphasis is placed on pathology, a methodical approach to surgical procedures and preparation and application of aseptic techniques with extensive laboratory experience to develop critical skills that are required to function in the operating room environment.

Total Credits	6
Total Hours	270

Pre/Corequisites

Prerequisite	SGT 101 Introduction to Surgical Technology
Prerequisite	SGT 115 Surgical Procedures I
Prerequisite	SGT 120 Principles & Practices in Surgical Technology
Prerequisite	SGT 140 Principles and Practices In Surgical Technology Lab

SGT 120 Principles and Practices in Surgical Technology

Course Standard

Course Information

Description   Presents concepts necessary to prepare students for clinical experience. Aseptic technique and supplies and equipment are major components of this course.

Total Credits	5
Total Hours	75

SGT 125 Surgical Procedures II

Course Standard

Course Information

Description   Coordinates study of theoretical and practical applications of various surgical procedures. Emphasis is placed on pathology, a methodical approach to surgical procedures and preparation and application of aseptic techniques with extensive laboratory experience to develop critical skills that are required to function in the operating room environment.

Total Credits   5

Total Hours   105

Pre/Corequisites

Prerequisite   SGT 101 Introduction to Surgical Technology

Prerequisite   SGT 115 Surgical Procedures I

Prerequisite   SGT 120 Principles & Practices in Surgical Technology

Prerequisite   SGT 140 Principles & Practices in Surgical Technology Lab

SGT 129 Surgical Technology - Clinical Experience II

Course Standard

Course Information

Description   Students are assigned to supervised, non-remunerative clinical practice in hospital operating rooms approximately 24-27 hours per week. Emphasis is placed on basic and intermediate surgical interventions. Includes rotations through endoscopy and pre-operative holding units

Total Credits   7

Total Hours   315

Pre/Corequisites

Prerequisite   SGT 119 Surgical Technology - Clinical Experience I

Prerequisite   SGT 107 Pharmacology for Surgical Technology

Prerequisite   SGT 125 Surgical Procedures II

SGT 140 Principles and Practices in Surgical Technology Lab

Course Standard

Course Information

Description   Students will demonstrate concepts necessary to prepare students for clinical experience. Aseptic technique and supplies and equipment are major components of this course.

Total Credits   3

Total Hours   90

Pre/Corequisites

Corequisite   SGT 120 Principles & Practices in Surgical Technology

SGT 145 ST Certification Review

Course Standard

Course Information

Description   This course provides a comprehensive review of surgical technology concepts and practical preparation for the national certification examination

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   SGT 101 Introduction to Surgical Technology

Prerequisite   SGT 107 Pharmacology for Surgical Technology

Prerequisite   SGT 115 Surgical Procedures I

Prerequisite   SGT 119 Surgical Technology - Clinical Experience I

Prerequisite   SGT 120 Principles & Practices in Surgical Technology

Prerequisite   SGT 125 Surgical Procedures II

Prerequisite   SGT 129 Surgical Technology - Clinical Experience II

Prerequisite   SGT 140 Principles & Practices in Surgical Technology Lab

SMA 120 Sheetmetal Apprenticeship

Course Standard

Course Information

Description   Students in this course will complete the course work and OJT required by the Joint Apprenticeship Training Committee.

Total Credits   46
Total Hours   2070

SOC 101 Principles of Sociology

Course Standard

Course Information

Description   An introductory study of human society to acquaint students with the influence and patterns of individual and group interaction by exploring the development, characteristics, and functioning of human groups; the relationships between groups, and group influences on individual behavior.

Total Credits   3
Total Hours   45

SOC 115 Social Problems

Course Standard

Course Information

Description   This course will examine the major problems of contemporary society, the social causes, potential solutions, and impact on public policy utilizing sociological theories and perspectives. Students will acquire an understanding of unique issues such as, inequality, crime, deviance, violence, substance abuse, and problems within socialization institutions.

Total Credits   3
Total Hours   45

Pre/Corequisites

Prerequisite   SOC 101 Introduction to Sociology

SPH 101 Public Speaking

Course Standard

Course Information

Description   Covers fundamental basics to all good private and public speaking experiences and elements in voice production and improvement, bodily movement, confidence, poise

and understanding of all types of public speeches. Required of all transfer curricula.

Total Credits   3

Total Hours   45

SPH 111 Interpersonal Communication

Course Standard

Course Information

Description   Improves individual communication skills. By understanding the elements of effective communication, students are able to create environments that bring out the best in themselves and others. In addition, students learn how to better turn ideas and feelings into words, how to listen more effectively, respond more appropriately to what others have said and, most important of all, how to maintain and develop good interpersonal relationships with their families, their peers and fellow workers. Emphasis is placed on small-group activities, interviewing skills and verbal and non-verbal communication.

Total Credits   3

Total Hours   45

TAS 121 Engine Repair

Course Standard

Course Information

Description   This course contains competencies that can be used in their entirety within a single course or as needed for courses designed by a Kansas institution as Institutional Flexible Credit. Through a variety of learning and assessment activities students can: explore the theory and operation of internal combustion engine; demonstrate the ability to remove an automotive engine; demonstrate the ability to install an automotive engine; demonstrate the basic ability to inspect and repair cylinder head, valve trains and timing defects; demonstrate the ability to disassemble short block; demonstrate the ability to inspect short block; demonstrate the ability to repair short block; demonstrate the ability to reassemble short block; demonstrate the basic ability to inspect and repair engine lubrication; demonstrate the basic ability to inspect and repair engine cooling systems; inspect a cylinder head and valve train; repair a cylinder head and valve train; perform advanced level engine diagnosis.

Total Credits   4

Total Hours   120

TAS 124 Electrical I

Course Standard

Course Information

Description In this course students will: Complete service work orders; describe the relationship between voltage, ohms and amperage; perform basic electrical circuit repairs; identify electrical system faults; identify basic wiring diagram symbols, components, and legend information; perform basic electrical circuit measurements using a DVOM; describe basic circuit characteristics of series, parallel and series parallel circuits through a variety of classroom and shop learning and assessment activities.

Total Credits 3

Total Hours 90

TAS 125 Electrical II
Course Standard

Course Information

Description In this course students will: Perform battery diagnosis; perform battery service; perform starting system diagnosis; perform starting system repair; perform charging system diagnosis; perform charging system repair; identify current flow on starting and charging system diagrams through a variety of learning and assessment activities.

Total Credits 5

Total Hours 150

Pre/Corequisites

Prerequisite   TAS 124 Electrical I

TAS 126 Manual Transmission/Transaxle & Drive Train

Course Standard

Course Information

Description This course contains competencies that can be used in their entirety within a single course or as needed for courses designed by a Kansas institution as Institutional Flexible Credit. Through a variety of learning and assessment activities students can: determine the general drive train diagnosis procedures; explore the fundamentals of clutch operation; explore the fundamentals of clutch removal, inspection and repair; determine the powerflow of the manual transmission and transaxle; perform fundamental manual transmission and transaxle inspection and repair according to service specifications; perform fundamental differential inspection and repair according to service specifications; perform fundamental diagnosis, inspection and replacement of drive axle shafts and supporting components; perform fundamental diagnosis, inspection, adjustment and repair of four- and all-wheel drive components; diagnose drive train issues; diagnose clutch concerns; perform the removal, inspection and/or repair of the clutch and its components; conduct a transmission and transaxle inspection and repair according to service specifications; conduct a differential inspection and repair according to service specifications; conduct the diagnosis, inspection and replacement of drive axle shafts and supporting components; conduct the diagnosis, inspection, adjustment and repair of four- and all-wheel drive components.

Total Credits 4

Total Hours 120

TAS 127 Automatic Transmission Repair

Course Standard

Course Information

Description This course contains competencies that can be used in their entirety within a single course or as needed for courses designed by a Kansas institution as Institutional Flexible Credit. Through a variety of learning and assessment activities students can: explore the concept of theory and operation of automatic transmissions/transaxles; perform maintenance on an automatic transmission/transaxle; perform service on an automatic transmission/transaxle; diagnose automatic transmission/transaxles; inspect automatic transmission/transaxles; remove and reinstall automatic transmission; remove and reinstall automatic transaxles; disassemble automatic transmission and components; disassemble automatic transaxles and components; inspect automatic transmission components; inspect automatic transaxles and components; repair automatic transmission and components; repair automatic transaxles and components; reassemble automatic transmission and components; reassemble automatic transaxles and components.

Total Credits 4

Total Hours 120

TAS 128 Heating & Air Conditioning

Course Standard

Course Information

Description   This course contains competencies that can be used in their entirety within a single course or as needed for courses designed by a Kansas institution as Institutional Flexible Credit. Through a variety of learning and assessment activities students can: explore the fundamentals of automotive HVAC operations and environmental concerns, identify the appropriate refrigerant recovery and recycling guidelines; service refrigerant, recycling and handling systems; document fundamental heating and air conditioning system concerns; perform fundamental diagnostics of A/C systems; perform fundamental diagnostics of refrigeration systems components; perform fundamental repairs of refrigeration systems components; perform fundamental diagnostics of heating, ventilation, and engine cooling systems; perform fundamental repairs of heating, ventilation, and engine cooling systems; perform fundamental diagnostics of operating systems and related controls; perform fundamental repairs of operating systems and related controls; perform complex diagnostics of A/C Systems; document complex heating and air conditioning system concerns; perform complex diagnostics of refrigeration system components; perform complex repairs of refrigeration system components; perform complex diagnostics of heating, ventilation, and engine cooling systems.

Total Credits   4

Total Hours   120

TAS 131 Engine Performance I

Course Standard

Course Information

Description   In this learning plan students will: complete work order and check history; identify engine mechanical integrity; explore the fundamentals of fuel system theory; identify fuel system concerns; explore the fundamentals of ignition theory; identify ignition system concerns; identify induction system concerns; identify exhaust system concerns; identify engine mechanical integrity through a variety of learning and assessment activities.

Total Credits   3

Total Hours   90

TAS 132 Engine Performance II

Course Standard

Course Information

Description   This course contains competencies that can be used in their entirety within a single course or as needed for courses designed by a Kansas institution as Institutional Flexible Credit. Through a variety of learning and assessment activities students can: analyze engine mechanical integrity; analyze fuel system concerns; analyze ignition system concerns; analyze induction system concerns; analyze exhaust system concerns; service fuel system concerns; repair fuel system concerns; service ignition system concerns; repair ignition system concerns; service induction system concerns; service exhaust system concerns; repair induction system concerns; repair exhaust system concerns.

Total Credits   3

Total Hours   90

Pre/Corequisites

Corequisite   TAS 131 Engine Performance I

TAS 133 Brakes I

Course Standard

Course Information

Description   This course is a thorough and detailed study of brake system theory and functional operation and principles of hydraulic systems as it applies to braking system operation. Practical applications of all phases of brake work including complete system service of disc and drum brake systems, parking brake systems, power assist devices and machining of brake disc and drum.

Total Credits   3

Total Hours   90

TAS 134 Brakes II

Course Standard

Course Information

Description   In this course students will: Determine necessary brake system correction; Conduct system pressure tests utilizing service specifications; Perform diagnosis and correction for poor stopping, pulling or dragging concerns caused by malfunctions in the hydraulic system; Conduct inspection, fabrication and/or replacement of brake lines and hoses; Diagnose poor stopping noise vibration, pulling, grabbing, dragging or pedal pulsation concerns; Perform service specifications pertaining to the removal, cleaning and refinishing procedures on brake drums; Perform drum brake repair and replacement procedures; Diagnose poor stopping noise vibration, pulling, grabbing, dragging or pedal pulsation concerns; Perform disc brake repair and replacement procedures; Machine rotor according to service specifications; Perform caliper piston retraction where applicable; Inspect and test power assist systems; Determine necessary action on wheel bearing noise, wheel shimmy and vibration concern diagnoses; Perform the removal, inspection and replacement of bearing and hub assemblies through a variety of classroom and lab/shop learning and assessment activities.

Total Credits   1

Total Hours   30

Pre/Corequisites

Prerequisite   TAS 133 Brakes I

TAS 135 Computer Systems

Course Standard

Course Information

Description   In this course students will: Perform automotive computer system diagnosis; perform vehicle communication diagnosis; perform engine computer system diagnosis; transmission computer diagnosis; perform air bag system diagnosis; perform heating and air conditioning electronic diagnosing; perform electronic anti-lock brake/traction/stability diagnosis; perform driver assistance system diagnosis; identify computer systems through a variety of learning and assessment activities.

Total Credits   3

Total Hours   90

TAS 136 Suspension and Steering I

Course Standard

Course Information

Description	In this course students will: document fundamental suspension system concerns; perform fundamental diagnostics of steering systems; perform fundamental repairs of steering systems; perform fundamental diagnostics of suspension systems; perform fundamental repairs of suspension systems; determine the need for wheel alignment and adjustment; perform fundamental diagnostics of wheel and tire systems; perform fundamental repairs of wheel and tire systems through a variety of learning and assessment activities.

Total Credits 3

Total Hours 60

TAS 137 Suspension and Steering II

Course Standard

Course Information

Description	In this, course students will: gain knowledge in the use of alignment geometry and computerized alignment equipment to diagnose and repair steering suspension problems and to verify that a vehicle's suspension and steering components are within manufacturer's specifications. In addition, removing and replacing steering and suspension components according to manufacturer's specifications, inspecting, servicing, and repairing wheel and tire assemblies for optimum performance.

Total Credits 2

Total Hours 60

Pre/Corequisites

Prerequisite   TAS 136 Suspension & Steering I

TAS 140 Diesel Engine Repair

Course Standard

Course Information

Description	This course will introduce students to the theory and operation of a diesel internal combustion engine. Students will learn how to install, remove, inspect and repair a diesel engine.

Total Credits 4

Total Hours 120

TAS 142 Diesel Engine Performance

Course Standard

Course Information

Description	This course will introduce students to diesel engine mechanical integrity, diesel fuel systems, diesel induction systems, and diesel exhaust systems. Students will learn how to service and repair diesel fuel systems, diesel induction systems, and diesel exhaust systems.

Total Credits 5

Total Hours 150

TAS 145 Automotive Service Internship

Course Standard

Course Information

Description	The internship represents an educational strategy linking the classroom with the acquisition of knowledge in the workplace. Through direct observation, reflection and evaluation, students gain an insight into the internship site's work, mission, and audience, how these relate to their academic study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.

Total Credits 3

Total Hours 135

TAS 150 O.E.M. Certification

Course Standard

Course Information

Description	This course is an online, self-paced course to allow students to acquire O.E.M. certification. In this course, students will choose one of the O.E.M. training options provided and utilize their chosen O.E.M.'s learning management system to complete modules required to achieve their certification.

Total Credits 2

Total Hours 30

TAS 155 Hydraulic Systems & Repair

Course Standard

Course Information

Description   This course will introduce students to hydraulic theory, systems, and repair. Students will apply learning to service, troubleshoot, and repair hydraulic components in a variety of applications.

Total Credits   2

Total Hours   60

TFF 110 Tap and Die

Course Standard

Course Information

Description   This course provides knowledge and technical skills on taps and dies. Topics include 60 degree thread form, common fastener thread series and markings on taps. The student will learn the process of hand tapping, the process of repairing a thread with a threading die and the process of installing a threaded insert.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   AER 106 Aerospace Manufacturing Tooling Orientation

TFF 115 Hand and Power Tools for Aerospace Tooling

Course Standard

Course Information

Description   This course provides technical knowledge on hand power tools used by a toolmaker in the aerospace industry. The student will learn about die grinders, disco grinders and magnetic drills.

Total Credits   1

Total Hours   30

Pre/Corequisites

TFF 120 Metrology

Course Standard

Course Information

Description	Students will learn the proper operation, field verification, and measuring techniques utilized in precision machining, manufacturing, and tooling in this course. The course will also expose the student to software applications used in the industry. Measuring instruments will be covered in Primary standards, Flexible Measuring Instruments, Support and Layout, Height Measuring Tools, and Laser Tracking and Romer Arm usage and software.

Total Credits   4

Total Hours   60

Pre/Corequisites

Prerequisite   MCD 106 Precision Measuring

TFF 125 Tooling Capstone

Course Standard

Course Information

Description	This course provides the specific technical knowledge and skills necessary to utilize hand and power tools to create a drill jig. This course emphasizes the importance of critical features, the process of permanent assembly and the role of toolmakers in the manufacturing environment.

Total Credits   4

Total Hours   120

Pre/Corequisites

Prerequisite   TFF 115 Hand and Power Tools for Aerospace Tooling

Prerequisite   AER 150 Assembly Overview I

TFF 135 Direct & Alternating Current

Course Standard

Course Information

Description   This course introduces direct current (DC) concepts and applications and the theory and application of varying sense wave voltages and current. Topics include: electrical principles and laws; batteries; DC test equipment; series, parallel and simple combination circuits; magnetism, AC wave generation, AC test equipment, inductance, capacitance, and basic transformers, and laboratory procedures and safety practices.

Total Credits   4

Total Hours   90

Pre/Corequisites

Prerequisite   AVC 110 Safety/OSHA

TFF 150 Fixture Construction

Course Standard

Course Information

Description   In this course, students will have the opportunity to link classroom/lab theory with an experimental learning opportunity. Through direct observation, reflection and evaluation, students gain an insight into the internship site's work, mission, and audience, how these relate to their academic study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.

Total Credits   5

Total Hours   225

TFF 155 Tooling and Fixture Fabrication Capstone

Course Standard

Course Information

Description In this project-based course, students will apply the skills and knowledge acquired throughout the Tooling Fixture Fabrication program to a real-world project. In partnership with industry, students will fabricate a tooling fixture designed to meet the customer needs. Students will produce a critical reflection on their capstone experience demonstrating how they have addressed specific learning goals. A successful project will include a project presentation to faculty and fellow students.

Total Credits 5

Total Hours 225

THR 100 Theatre Appreciation

Course Standard

Course Information

Description Upon completion of this class, the student will know the origin of theater, as well as the major historical periods of theatrical development including Greek, Medieval and Shakespearian. Students will acquire a basic understanding of different aspects of theater and play production, including an awareness of technical theater, designing for the stage, dramatic literature and structure. The student will become familiar with what constitutes quality acting and playwriting.

Total Credits 3

Total Hours 45

UAS 105 Fundamentals of Drone Technology

Course Standard

Course Information

Description This course will provide an introduction into the world of Unmanned Aerial Vehicles and systems which support UAVs. Students will gain an understanding of the necessary knowledge and skills to become a drone certified pilot as well as the necessary items to successfully complete a drone task safely.

Total Credits 2

Total Hours 45

UAS 110 AC/DC

Course Standard

Course Information

Description   This course introduces direct current (DC) concepts and applications and the theory and application of varying sense wave voltages and current. Topics include electrical principles and laws; batteries; DC test equipment; series, parallel and simple combination circuits; magnetism, AC wave generation, AC test equipment, inductance, capacitance, basic transformers, and laboratory procedures and safety practices.

Total Credits   4

Total Hours   90

UAS 115 Ground School

Course Standard

Course Information

Description   The course will enable the student to demonstrate the knowledge required by CFR 61.105 (b). Knowledge areas of emphasis are FAA regulations, accident reporting, chart usage, navigation, radio communications, weather, collision avoidance, aerodynamics, systems, weight and balance, stall awareness, aeronautical decision making, preflight and ground operations.

Total Credits   3

Total Hours   45

UAS 120   Communication/Navigation

Course Standard

Course Information

Description   The course provides an understanding of the capabilities and limitations of UAS technology to include the hardware and software inclusions and gain a holistic view of concerns facing UAS integration into the National Airspace.

Total Credits   3

Total Hours   60

UAS 125 GIS I

Course Standard

Course Information

Description   In this course, students will gain understanding of GIS concepts with vector and raster data models. Students will then move into geospatial data acquisition, editing the data, and appropriate management of the data. Students will then learn to display geospatial data and begin basic exploration of geospatial data. Students will practice these skills with real world data sets and challenges located throughout the course.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   UAS 105 Fundamentals of Drone Technology

Prerequisite   UAS 115 Ground School

UAS 130 MultiRotor I

Course Standard

Course Information

Description   The course objective is to understand how unmanned aircraft are used to accomplish a variety of tasks in a complex environment and how remote pilots apply UAS technology for commercial, scientific, and governmental purposes while respecting both the physical and regulatory limitations. Additionally, this course creates a foundation for the concept of professionalism and ethics as they apply to remote pilots.

Total Credits   3

Total Hours   60

Pre/Corequisites

Prerequisite   UAS105 Fundamentals of Drone Technology

Prerequisite   UAS 115 Ground School

UAS 135 Flight Planning

Course Standard

Course Information

Description   In this course, students will practice planning and executing several case studies involving UAS. Flight plans, FAA filing, maintenance logs, data collection, data processing, and final product presentation will be prepared for each case study. Case studies will be pulled from Agriculture, Transportation, Insurance, Marketing, and Public Utilities/Planning.

Total Credits   2

Total Hours   60

Pre/Corequisites

Corequisite   UAS 125 GIS I

Corequisite   UAS 130 MultiRotor I

UAS 140 MultiRotor II

Course Standard

Course Information

Description   The course objective is to understand the limits and skills employed by professional remote pilots in trapping and mitigating errors and analyzing human error and management skills used to detect and stop errors during the day-to-day execution of remote pilot tasks. Additionally, this course explores the concepts of decision-making bias, stress, and methods for safely identifying and mitigating risk while making time critical decisions.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   UAS 130 MultiRotor I

UAS 145 GIS II

Course Standard

Course Information

Description   This course continues developing students' skills using GIS but focuses more on the analysis and use of GIS. Students will analyze both vector and raster data, map and analyze terrain, watershed analysis, spatial interpolation, geocoding and dynamic segmentation, network analysis, and build/develop GIS models.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   UAS 125 GSI I

Prerequisite   MTH 112 College Algebra

UAS 150 Photogrammetry

Course Standard

Course Information

Description   Understand the fundamentals of digital photogrammetry. Be able to relate ground and image coordinates mathematically. Be able to rectify and orthorectify a frame image to a reference coordinate system. Understand and carry out a task to build a 3D model from stereo images. Appreciate other related photogrammetric algorithms, operations, and products.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite   MTH 112 College Algebra

Prerequisite   UAS 125 GIS I

UAS 155 Sensor Packages

Course Standard

Course Information

Description   This course gives students a more in-depth look into the theory, operation, and application of standard and cutting-edge sensors for UAS platforms. Students will work through several case studies and practice choosing appropriate sensors, integrating them into a UAS platform, executing the mission, and producing value-added products for that particular customer.

Total Credits   4

Total Hours   90

Pre/Corequisites

Prerequisite   MTH 112 College Algebra

UAS 160 Design and Programming

Course Standard

Course Information

Description   The mission influences the design of any UAS system it is to complete. To correctly choose a platform to accomplish the mission most effectively, students must understand UAS Airframe, UAS Powerplants, UAS Electrical system, and UAS Sensor Systems. This course will help students understand each of these variables' design parameters and provide opportunities to design and build UAS platforms based on different missions.

Total Credits   4

Total Hours   90

Pre/Corequisites

Prerequisite   MTH 112 College Algebra

UAS 165 FixedWing UAS Flight

Course Standard

Course Information

Description In this course, students learn how fixed-wing, unmanned aircraft accomplish various tasks in a complex environment and how remote pilots apply UAS technology for commercial, scientific, and governmental purposes while respecting both the physical and regulatory limitations. Additionally, this course creates opportunities for students to practice flying fixed-wing UAS to accomplish missions across various industry fields.

Total Credits 3

Total Hours 75

Pre/Corequisites

Prerequisite UAS 140 MultiRotor II

UAS 173 UAS Capstone

Course Standard

Course Information

Description In this project-based course, students will apply the skills and knowledge acquired throughout the Drone Technology program to a real-world UAS project. Industry application areas will include Agriculture, Reconnaissance/Emergency Response, Industrial Inspections, Remote Sensing Applications and more. Students will produce a critical reflection on their capstone experience demonstrating how they have addressed specific learning goals. A successful project will include a project presentation to representatives of industry, faculty and fellow students.

Total Credits 4

Total Hours 180

Pre/Corequisites

Prerequisite UAS 140 Multirotor II

Prerequisite UAS 145 GIS II

Prerequisite UAS 150 Photogrammetry

UAS 175 UAS Internship

Course Standard

Course Information

Description The internship represents an educational strategy linking the classroom with the acquisition of knowledge in the workplace. Through direct observation, reflection and evaluation, students gain an insight into the internship site's work, mission, and audience, how these relate to their academic study, as well as the organization's position in the broader industry or field. Students will produce a critical reflection on their internship experience demonstrating how they have addressed specific learning goals.

Total Credits 4

Total Hours 180

Pre/Corequisites

Prerequisite   UAS 140 Multirotor II

Prerequisite   UAS 145 GIS II

Prerequisite   UAS 150 Photogrammetry

VET 103 Introduction to Veterinary Nursing Part 2

Course Standard

Course Information

Description Intro to Veterinary Nursing: This course is designed for students who have completed VET 102 Introduction to Veterinary Assisting/Animal Science and have been accepted into the Veterinary Nursing program. This course will introduce learners to the field of veterinary medicine, focusing on specific roles and responsibilities of the veterinary technician. Students will be introduced to the historical aspects of veterinary medicine and the duties of the technician including ethics. This course introduces the basic principles of nursing care, including clear and compassionate communication with owners. This course also gives a basic overview of medical terminology, anatomy/physiology, and pathology. It will introduce the basic principles of animal science, specifically as they relate to the role of the veterinary technician.

Total Credits 2

Total Hours 60

Pre/Corequisites

Prerequisite   VET 102 Introduction to Veterinary Assisting/Animal Science

Prerequisite   BIO 110 Principles of Biology

Prerequisite   SPH 101 Public Speaking OR SPH 111 Interpersonal Communication

Prerequisite	MTH 101 Intermediate Algebra
Prerequisite	CHM 110 General Chemistry
Prerequisite	ENG 101 Composition I
Corequisite	VET 110 Veterinary Anatomy and Physiology
Corequisite	VET 115 Veterinary Clinical Pathology I OR VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2
Corequisite	VET 140 Veterinary Pharmacology Or VET 141 Veterinary Assisting III and VET 142 Veterinary Pharmacology Part 2

VET 101 Introduction to Veterinary Nursing

Course Standard

Course Information

Description	This course will introduce learners to the field of veterinary medicine, focusing on the specific roles and responsibilities of the veterinary nurse. Learners will be introduced to the historical aspects of veterinary medicine and the duties of the nurse including ethics, common animal breeds, safety, and first aid. This course also introduces the basic principles of nursing care, including clear and compassionate communication with owners. This course also gives a basic overview of medical terminology, anatomy/physiology and pathology. It will also introduce the basic principles of animal science, specifically as they relate to the role of a veterinary nurse.
Total Credits	3
Total Hours	60

Pre/Corequisites

Prerequisite	BIO 110 Principles of Biology
Prerequisite	SPH 101 Public Speaking OR SPH 111 Interpersonal Communication
Prerequisite	MTH 101 Intermediate Algebra
Prerequisite	CHM 110 General Chemistry
Prerequisite	ENG 101 Composition I
Corequisite	VET 110 Veterinary Anatomy and Physiology
Corequisite	VET 115 Veterinary Clinical Pathology I OR VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2
Corequisite	VET 140 Veterinary Pharmacology OR VET 141 Veterinary Assisting III and VET 142 Veterinary Pharmacology Part 2

VET 102 Introduction to Veterinary Assisting/Animal Science

Course Standard

Course Information

Description   This course will introduce learners to the field of veterinary medicine and animal science, focusing on the specific roles and responsibilities of the veterinary assistant. Learners will be introduced to the basic principles of animal handling and care, common animal breeds, safety in the veterinary setting and first aid. This course also gives an overview of veterinary medical terminology.

Total Credits   1

Total Hours   30

VET 105 Veterinary Business Procedures/Office Management

Course Standard

Course Information

Description   This course will introduce learners to the expectations of veterinary nurses including: veterinary medical records, admitting procedures, and record maintenance via hands on experiences. It will cover basic bookkeeping skills, inventory control measures, marketing, scheduling, interpersonal communication, phone etiquette, professionalism, working with difficult owners/animals, and the use of computer software specifically designed for use in veterinary clinics and hospitals.

Total Credits   2

Total Hours   30

Pre/Corequisites

Prerequisite   BIO 110 Principles of Biology

Prerequisite   MTH 101 Intermediate Algebra

Prerequisite   SPH 101 Public Speaking OR SPH 111 Interpersonal Communication

Prerequisite   CHM 110 General Chemistry

VET 106 Veterinary Practice Management

Course Standard

Course Information

Description   This course will introduce learners to the management of a veterinary clinical setting. It will cover duties of the receptionist and front desk, telephone etiquette, scheduling and client communication. The learner will gain hands on experience in veterinary record keeping, filing and office inventory techniques.

Total Credits   1

Total Hours   30

VET 107 Veterinary Business Procedures/Office Management Part 2

Course Standard

Course Information

Description   This course is designed for students who have completed VET 106 Veterinary Practice Management and have been accepted into the Veterinary Nursing program. This course will introduce learners to the expectations of veterinary technicians including veterinary medical records, admitting procedures, and record maintenance via hands-on experience. It will cover basic bookkeeping skills, inventory control measures, marketing, scheduling interpersonal communication, phone etiquette, professionalism, working with difficult owners and animals, and the use of computer software specifically designed for use in veterinary clinics and hospitals.

Total Credits   1

Total Hours   15

Pre/Corequisites

Prerequisite   VET 106 Veterinary Practice Management

Prerequisite   BIO 110 Principles of Biology

Prerequisite   MTH 101 Intermediate Algebra

Prerequisite   SPH 101 Public Speaking OR SPH 111 Interpersonal Communication

Prerequisite   CHM 110 General Chemistry

VET 110 Veterinary Anatomy and Physiology

Course Standard

Course Information

Description   This course will introduce veterinary medical terminology, including prefix, suffix, root words, common medical terms, and a basic knowledge of word construction. This course will relate the relevant medical terminology to the structure and function of animal bodies and the anatomical/physiological differences between selected species. Learners will examine body organization, cellular biology, histology, and gross anatomy/physiology of the integumentary, skeletal, muscular, endocrine, reproductive, cardiovascular, lymphatic, digestive, respiratory, urinary, and nervous systems. Lab will include the use of skeletons, models, virtual anatomy tools, and dissection of cadavers.

Total Credits   4

Total Hours   105

Pre/Corequisites

Prerequisite	BIO 110 Principles of Biology
Prerequisite	MTH 101 Intermediate Algebra
Prerequisite	CHM 110 General Chemistry
Prerequisite	SPH 101 Public Speaking OR SPH 111 Interpersonal Communication
Prerequisite	ENG 101 Composition I
Corequisite	VET 101 Introduction to Veterinary Technology/Principles of Animal Sciences OR VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2
Corequisite	VET 115 Veterinary Clinical Pathology I OR VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2
Corequisite	VET 140 Veterinary Pharmacology ORVET 141 Veterinary Assisting III and VET 142 Veterinary Pharmacology Part 2

VET 115 Veterinary Clinical Pathology I

Course Standard

Course Information

Description   This course is the first of a three course series and will introduce basic pathological processes and prepare the learner for the next course in the sequence. This course builds upon veterinary pharmacology and introduces clinical microbiology and cytology as it relates to veterinary nursing and animal pathology. It covers the basic principles of microbial classification, growth, and pathogenicity as well as various laboratory methods used in identification of microorganisms as they relate to pathology and parasitology in animals.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite	BIO 110 Principles of Biology
Prerequisite	MTH 101 Intermediate Algebra
Prerequisite	SPH 101 Public Speaking OR SPH 111 Interpersonal Communication
Prerequisite	CHM 110 General Chemistry
Prerequisite	ENG 101 Composition I
Corequisite	VET 101 Introduction to Veterinary Nursing Or VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2
Corequisite	VET 110 Veterinary Anatomy and Physiology
Corequisite	VET 140 Veterinary Pharmacology OR VET 141 Veterinary Assisting III and VET 142 Veterinary Pharmacology Part 2

VET 116 Laboratory and Diagnostic Skills

Course Standard

Course Information

Description	This course will expose the learner to basic veterinary laboratory techniques including sample collection and testing. The student will also be exposed to the safety measures employed in radiology. The student will gain hands on experience with animal handling in the lab and radiology setting.

Total Credits	1
Total Hours	30

Pre/Corequisites

Prerequisite	VET 141 Veterinary Assisting II

VET 117 Veterinary Clinical Pathology I Part 2

Course Standard

Course Information

Description	This course is designed for students who have completed VET 116 Laboratory and Diagnostic Skills and have been accepted into the Veterinary Nursing program. This course is the first of a three-course series and will introduce basic pathological processes and prepare the learner for the next course in the sequence. This course builds upon veterinary pharmacology and introduces clinical microbiology and cytology as it relates to veterinary technology and animal pathology. It covers the basic principles of microbial classification, growth, and pathogenicity as well as various laboratory methods used in identification of microorganisms as they relate to pathology and parasitology in animals.

Total Credits	2

Total Hours 60

Pre/Corequisites

Prerequisite	BIO 110 Principles of Biology
Prerequisite	MTH 101 Intermediate Algebra
Prerequisite	SPH 101 Public Speaking OR SPH 111 Interpersonal Communication
Prerequisite	CHM 110 General Chemistry
Prerequisite	ENG 101 Composition I
Corequisite	VET 140 Veterinary Pharmacology Or VET 141 Veterinary Assisting II and VET 142 Veterinary Pharmacology Part 2
Corequisite	VET 110 Veterinary Anatomy and Physiology
Corequisite	VET 101 Introduction to Veterinary Nursing Or VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2

VET 120 Veterinary Nursing Procedures I

Course Standard

Course Information

Description	This course is the first of a two course series and will explore animal nutrition, patient assessment, animal therapeutics, animal husbandry, animal restraint, animal behavior and common dental problems and dental prophylaxis. Learners will get hands on experience in the collection of various diagnostic samples and preparation for collection.
Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite	VET 101 Introduction to Veterinary Nursing Or VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2
Prerequisite	VET 110 Veterinary Anatomy and Physiology
Prerequisite	VET 115 Veterinary Clinical Pathology I Or VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2

VET 121 Veterinary Assisting I

Course Standard

Course Information

Description	This course is the first of a two course series and will explore veterinary anatomy, common diseases of small animals, zoonoses, and nutrition. The learner will get

hands on experience in animal handling and restraint and basic grooming techniques for small animals.

Total Credits	1
Total Hours	30

Pre/Corequisites

Prerequisite	VET102 Introduction to Veterinary Assisting/Animal Science

VET 122 Veterinary Nursing Procedures I Part 2

Course Standard

Course Information

Description	This course is designed for students who have completed VET 121Veterinary Assisting I and have been accepted into the Veterinary Nursing program. This course is the first of a two course series and will explore animal nutrition, patient assessment, animal therapeutics, animal husbandry, animal restraint, animal behavior and common dental problems and the prophylactic procedure for teeth cleaning. Learners will get hands-on experience in the collection of various diagnostic samples and preparation for collection.

Total Credits	2
Total Hours	60

Pre/Corequisites

Prerequisite	VET 101 Introduction to Veterinary Nursing or VET 102 Introduction to Veterinary Assisting and VET 103 Introduction to Veterinary Nursing Part 2
Prerequisite	VET 110 Veterinary Anatomy and Physiology
Prerequisite	VET 115 Veterinary Clinical Pathology I or VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2
Prerequisite	VET 121 Veterinary Assisting I

VET 130 Veterinary Emergency, Critical Medicine and Hospital Procedures

Course Standard

Course Information

Description	This course will cover emergency and critical care nursing skills and hospital procedures in Veterinary Medicine. Topics will focus on companion animal care, but

will include large animal, laboratory animal, and exotic animal care as it relates to the veterinary nurse.

Total Credits	2
Total Hours	45

Pre/Corequisites

Prerequisite	VET 101 Introduction to Veterinary Nursing OR VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2
Prerequisite	VET 110 Veterinary Anatomy and Physiology
Prerequisite	VET 115 Veterinary Clinical Pathology OR VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2

VET 140 Veterinary Pharmacology

Course Standard

Course Information

Description	This course will explore pharmacological principles, including pharmacokinetics drug classes, indications, dosage, preparation, mechanisms of action, and side effects of drugs used in veterinary medicine.

Total Credits	2
Total Hours	45

Pre/Corequisites

Corequisite	VET 101 Introduction to Veterinary Nursing Or VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2
Corequisite	VET 110 Veterinary Anatomy and Physiology
Corequisite	VET 115 Veterinary Clinical Pathology Or VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2
Prerequisite	ENG 101 Composition I
Prerequisite	CHM 110 General Chemistry
Prerequisite	MTH 101 Intermediate Algebra

VET 141 Veterinary Assisting II

Course Standard

Course Information

Description	This course is the second in a two course series and will continue to explore and

cover exam room procedures, pharmacology, euthanasia and surgical assisting. The learner will gain hands on experience in animal handling and restraint as well as basic medication administration.

Total Credits	1
Total Hours	30

Pre/Corequisites

Prerequisite	VET 121 Veterinary Assisting I

VET 142 Veterinary Pharmacology Part 2

Course Standard

Course Information

Description	This course is designed for students who have completed VET 141 Veterinary Assisting II and have been accepted into the Veterinary Nursing program. This course will explore pharmacological principles, including pharmacokinetics, drug classes, indications, dosages, preparation, mechanisms of action, and side effect of drugs used in veterinary medicine.

Total Credits	1
Total Hours	30

Pre/Corequisites

Prerequisite	ENG 101 Composition I
Prerequisite	CHM 110 General Chemistry
Prerequisite	MTH 101 Intermediate Algebra
Corequisite	VET 101 Introduction to Veterinary Nursing or VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2
Corequisite	VET 110 Veterinary Anatomy and Physiology
Corequisite	VET 115 Veterinary Clinical Pathology or VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology Part 2

VET 215 Veterinary Clinical Pathology II

Course Standard

Course Information

Description	This course is the second of a three course series and will continue to build upon pathological processes and prepare the learner for the next course in the

sequence. This course will explore the life cycles, modes of transmissions, and pathological consequences associated with common parasites of animals. Laboratory techniques of hematology, serum chemistry, urinalysis and fecal sample collection will be covered. This course also explores special commercial laboratory test procedures and pathological processes. Lab will introduce diagnostic procedures and cover identification of parasites and various pathologies using prepared slides and collected specimens. Additionally, postmortem examination procedures and proper submission of tissue samples for pathologic diagnosis are introduced.

Total Credits   3

Total Hours   75

Pre/Corequisites

Prerequisite	VET 101 Introduction to Veterinary Nursing OR VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2
Prerequisite	VET 110 Veterinary Anatomy and Physiology
Prerequisite	VET 115 Veterinary Clinical Pathology OR VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2

VET 220 Veterinary Nursing Procedures II

Course Standard

Course Information

Description   This course is the second of a two course series and will continue to explore and cover advanced techniques in animal nutrition, patient assessment, animal therapeutics, animal husbandry, animal restraint, animal behavior and common dental problems and dental prophylaxis focused on companion animals. Learners will get hands on experience in the collection of various diagnostic samples and preparation for collection with a focus on companion animals.

Total Credits   2

Total Hours   45

Pre/Corequisites

Prerequisite	VET 120 Veterinary Nursing Procedures I OR VET 121 Veterinary Assisting I and VET 122 Veterinary Nursing Procedures Part 2
Prerequisite	VET 215 Veterinary Clinical Pathology II

VET 230 Veterinary Diagnostic Imaging with Lab

Course Standard

Course Information

Description	Covers the physics of x-ray photon production, radiation safety, quality control measures, federal and state radiation regulations, film processing, radiographic technique evaluation, positioning of animals, and proper identification and storage of radiographic images. Covers the operation and use of fixed, portable, and dental x-ray machines; the care and development of films; radiographic positioning of animals; and evaluation of radiographic technique. Explores additional diagnostic imaging modalities, such as ultrasound, MRI, CT, and endoscopy.

Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite	VET 101 Introduction to Veterinary Nursing or VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2
Prerequisite	VET 110 Veterinary Anatomy and Physiology
Prerequisite	VET 115 Veterinary Clinical Pathology OR VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2

VET 240 Veterinary Anesthesia and Surgical Assisting

Course Standard

Course Information

Description	This course will explore the principles and practices of veterinary anesthesia and surgical assistance including pre-operative, operative, and post-operative protocols for routine surgical procedures. Learners will be provided with hands-on experience in anesthesiology, surgical patient preparation and surgical assistance.

Total Credits	3
Total Hours	75

Pre/Corequisites

Prerequisite	VET 250 Veterinary Nursing: Large Animal Disease and Medical Care
Prerequisite	VET 265 Veterinary Nursing Procedures: Avian, Exotic and Lab Animals Disease and Medical Care

VET 250 Veterinary Nursing: Large Animal Disease and Medical Care

Course Standard

Course Information

Description   This course will explore common large animal breeds (ruminant, equine, swine, and chickens). It will introduce techniques necessary for the provision of nursing care to large animals, including restraint, husbandry, behavior, physical examination, medication administration, diagnostic sample collection, grooming, bandaging, nutrition, and vaccination. It will also cover preventive medicine and diseases of large animals including the public health significance of relevant large animal diseases and examine the role of the veterinary nurse in performing diagnostics, nursing care, and client education.

Total Credits   2

Total Hours   45

Pre/Corequisites

Corequisite	VET 120 Veterinary Nursing Procedures I OR VET 121 Veterinary Assisting I and VET 122 Veterinary Nursing Procedures Part 2
Corequisite	VET 215 Veterinary Clinical Pathology II
Prerequisite	VET 101 Introduction to Veterinary Nursing OR VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2
Prerequisite	VET 110 Veterinary Anatomy and Physiology
Prerequisite	VET 115 Veterinary Clinical Pathology I OR VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2

VET 260 Veterinary Clinical Pathology III

Course Standard

Course Information

Description   This course is the third of a three course series and will bring together knowledge of pathological processes gained from the first two courses in the sequence and relate them to every day practice in veterinary medicine with an emphasis on companion animal practice. This course will continue to explore the life cycles, modes of transmissions, and pathological consequences associated with common parasites of animals. It will also continue discussion of microbiology and cytology as they relate to the veterinary technician. It will explore physical injuries, resulting pathologies and treatments. Additionally, this course will explore environmental and nutritional concepts as they relate to various pathologies with an emphasis in this relation to small/companion animals. Lastly, this course will reinforce the issue of zoonosis and safety on the job with The Occupational Safety and Health Administration (OSHA) protocols.

Total Credits   3

Total Hours   75

Prerequisite	VET 120 Veterinary Nursing Procedures I OR VET 121 Veterinary Assisting I and VET 122 Veterinary Nursing Procedures Part 2
Prerequisite	VET 215 Veterinary Clinical Pathology II

VET 265 Veterinary Nursing Procedures: Avian, Exotic and Lab Animals Disease and Medical Care

Course Standard

Course Information

Description   Introduces basic techniques necessary for the provision of nursing care to small animals, including small animal restraint, husbandry, behavior, physical examination, medication administration, vaccination, and grooming. Includes kennel duty experience in the care of a variety of companion animals. Provides an overview of the anatomy and physiology, the care and handling, and diseases of common laboratory and exotic small animals. Covers the principles of lab animal use in research with an emphasis on animal welfare. This course also covers preventive medicine and diseases of small animals including the public health significance of relevant small animal diseases. Examines the role of the veterinary nurse in performing diagnostics, nursing care, and client education. Reinforce staff/owner relationships with role playing scenarios.

Total Credits   2

Total Hours   45

Pre/Corequisites

Corequisite	VET 120 Veterinary Nursing Procedures I OR VET 121 Veterinary Assisting I and VET 122 Veterinary Nursing Procedures Part 2
Corequisite	VET 215 Veterinary Clinical Pathology II
Prerequisite	VET 101 Introduction to Veterinary Nursing or VET 102 Introduction to Veterinary Assisting/Animal Science and VET 103 Introduction to Veterinary Nursing Part 2
Prerequisite	VET 110 Veterinary Anatomy and Physiology
Prerequisite	VET 115 Veterinary Clinical Pathology I OR VET 116 Laboratory and Diagnostic Skills and VET 117 Veterinary Clinical Pathology I Part 2

VET 270 Veterinary Nursing Seminar

Course Standard

Course Information

Description   This course will serve to reinforce knowledge and concepts covered in the other courses in the program. This course will prepare students for the Veterinary Technician National Exam (VTNE) and help them to become ready to work in the

field of Veterinary Nursing.

Total Credits	1
Total Hours	15

Pre/Corequisites

Prerequisite   VET 120 Veterinary Nursing Procedures I or VET 121 Veterinary Assisting I and VET 122 Veterinary Nursing Procedures Part 2

Prerequisite   VET 215 Veterinary Clinical Pathology II

VET 275 Veterinary Clinical Practicum

Course Standard

Course Information

Description   This course provides hands-on experience working with actual animal cases in a clinical veterinary setting. This course will expand student knowledge and build proficiency of acquired skills through task-specific exercises learned prior in the curriculum. It also links prior on-campus coursework with off-campus learning experiences providing development of increased proficiency and honing of essential skills learned in the formal instructional setting which are necessary for a career as a veterinary technician. Students will be matched to practicum sites at the discretion of the instructor. Each student is expected to attend a minimum of 240 hours at extern sites. These hours can be completed at two locations (120 hours at each site). The practicum will be monitored and reviewed by the program director or the director's appointee.

Total Credits	6
Total Hours	270

Pre/Corequisites

Prerequisite   VET 120 Veterinary Nursing Procedures I or VET 121 Veterinary Assisting I and VET 122 Veterinary Nursing Procedures Part 2

Prerequisite   VET 215 Veterinary Clinical Pathology II