



# WATC

WICHITA AREA  
TECHNICAL COLLEGE

**COLLEGE CATALOG  
2015-2016**

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Wichita Area Technical College (WATC) has been delivering excellence in education since 1965. WATC 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 WATC is to provide quality higher education and leadership in workforce training that supports economic development for a global economy.

#### **Vision**

WATC will be the leading provider of higher education, specializing in the delivery of career technical education, utilizing state-of-the-art facilities with highly qualified faculty, and offering a competitive advantage that drives economic development in the region.

#### **Values**

To achieve our vision and fulfill our mission, Wichita Area Technical College has embraced the following values:

**Accountability:** WATC values the resources entrusted to it and will use them responsibly to support the college's mission.

**Quality:** WATC values an environment of professionalism and excellence for students, faculty, and staff to learn and work.

**Innovation:** WATC values cutting-edge technology and delivery methods to encourage lifelong learning within a rapidly changing society.

**Customer Service:** WATC values its customers as it strives to exceed their expectations, while responding to the needs of its various constituents.

**Equity/Diversity:** WATC values the diverse nature of its students, faculty and staff and seeks to treat each person with the utmost respect.

**Global Professional Standards:** WATC values and practices behaviors that promote responsible, successful, and ethical students, employees and citizens.

## **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 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 WATC.

### **Sedgwick County Technical Education and Training Authority**

Sedgwick County Technical Education and Training Authority (SCTETA) is the governing board for WATC. The board consists of 11 appointed, voting members who establish and publish policies, regulations and procedures pertaining to WATC.

## **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.

Wichita Area Technical College 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  
ncahlc.org

## **Nondiscrimination**

Wichita Area Technical College 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.

Wichita Area Technical College 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 WATC 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, 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.

WATC offers the following AAS programs:

- Administrative Office Technology
- Air Conditioning Technology
- Aerospace Coatings & Paint Technology
- Applied Science of Aviation Manufacturing
- Architectural Design Technology
- Auto Collision Repair
- Automotive Service Technology
- Aviation Maintenance Technology
- Avionics Technology
- Business Administration
- Composite Technology
- Dental Assistant
- Electromechanical Systems
- Engineering Design Technology
- Healthcare Admin. & Management
- Interior Design
- Machining Technology
- Manufacturing Engineering Technology
- Medical Assistant
- Medical Coding
- Nondestructive Testing
- Police Science
- Predictive NDT Technologies
- Robotics
- Surgical Technology
- Welding

### **General Education**

WATC'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 WATC's technical certificate programs.

WATC 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. WATC'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.

WATC'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 WATC.

### 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

Chapter 1 – Organization

Chapter 2 – Personnel Policies

Chapter 3 – Students

Chapter 4 – Fiscal

Chapter 5 – Academic

Chapter 6 – Buildings and Grounds

Chapter 7 – Safety and Security

Chapter 8 – Marketing

Chapter 9 – Information Technology

Chapter 10 – Foundation and Grants

Chapter 11 – Workforce

## Locations & Phone Numbers

General Information . . . . .	.316.677.9400
Fax . . . . .	.316.677.9555
Website . . . . .	www.watc.edu
Emergency Closing Hotline (also visit www.watc.edu) . . .	.316.677.9596

### NATIONAL CENTER FOR AVIATION TRAINING/JABARA

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
AO-K Program . . . . .	.316.677.1811

### SOUTHSIDE CENTER

4501 East 47th Street South | Wichita, KS 67210 | 316.677.9400

General Information . . . . .	.316.677.1500
Academic Success/Tutoring . . . . .	.316.677.9440
Admissions . . . . .	.316.677.9400
Bookstore . . . . .	.316.677.9459
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

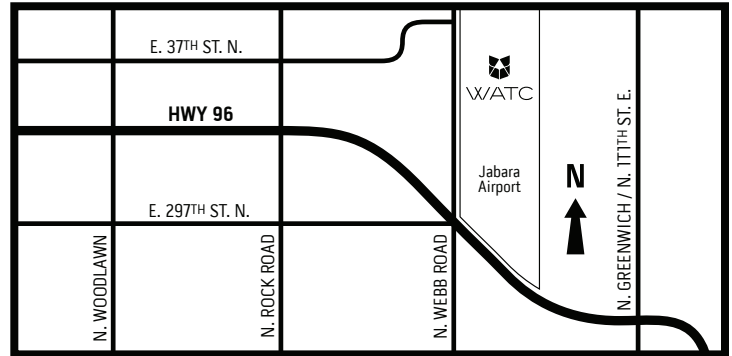
### GROVE CAMPUS

301 S. Grove | Wichita, KS 67211-2099 | 316.677.9400

Adult Literacy/GED . . . . .	.316.677.1150
General Information . . . . .	.316.677.9400
AO-K Program . . . . .	.316.677.1811

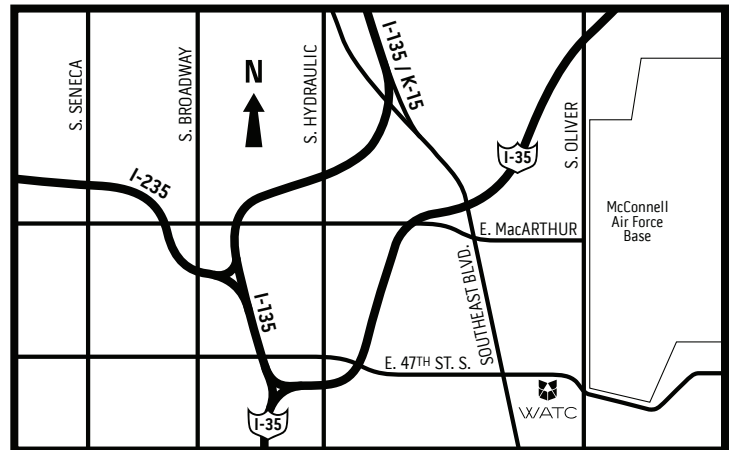
### PRATT COMMUNITY COLLEGE CAMPUS

348 NE SR 61 | Pratt, KS 67124 Driving Directions  
Chandler School of Nursing & Allied Health



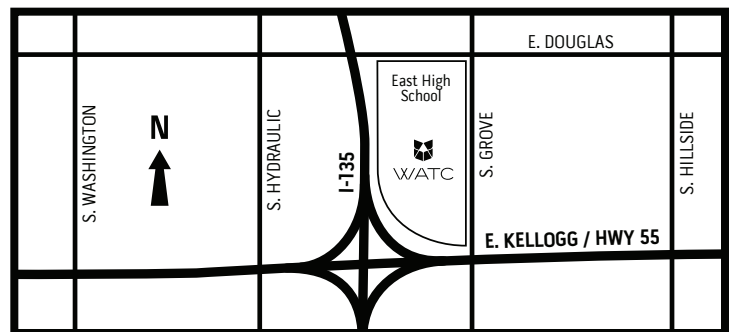
#### National Center for Aviation Training/Jabara Directions

- Go north on I-135 to 96-E.
- Turn north onto Webb Road.
- Go east on 96-E and exit on Webb Road.
- Turn right after 39th Street North.



#### Southside Center Directions

- Go south on I-135 / K-15.
- Take Exit 3A and merge onto K-15 S / Southeast Boulevard.
- Go southeast on K-15 / Southeast Boulevard to 47th St.
- Go east on 47th Street South (south side of street).



#### Grove Campus Directions from East

- Go west on Kellogg (US Hwy 54) to Grove exit.
- Go north on Grove approximately one block (west side of street).

#### Grove Campus Directions from West

- Go east on Kellogg to Washington exit.
- Go north on Washington to Douglas.
- Go east on Douglas to Grove.
- Go south on Grove approximately two blocks (west side of street).



## Academic Coaches

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**JEFF THOMAS (SSC)**  
316.677.1035 | [jthomas17@watc.edu](mailto:jthomas17@watc.edu)

Dental Assistant  
Medical Assistant  
Surgical Technology  
Medical Coding



**KRIS DEAN (NCAT)**  
316.677.1963 | [kdean@watc.edu](mailto:kdean@watc.edu)

Air Conditioning Technology  
Automotive Collision Repair  
Automotive Service Technology  
Electromechanical Systems  
Private Security (PSOT)



**DAJINA KIEL (SSC)**  
316.677.1093 | [dkiel@watc.edu](mailto:dkiel@watc.edu)

Licensed Practical Nurse



**BRIAN LEE (NCAT)**  
316.677.1810 | [blee3@watc.edu](mailto:blee3@watc.edu)

Architectural Design  
Machining Technology  
Manufacturing Engineering  
Mechanical Design  
Police Science  
Robotics  
Welding



**ASHLEY LIKES (SSC)**  
316.677.1321 | [alikes@watc.edu](mailto:alikes@watc.edu)

Administrative Office Technology  
Business  
Certified Nurse Assistant  
Certified Medical Assistant  
Home Health Aide  
Interior Design



**REBEKAH PRICHARD (NCAT)**  
316.677.1027 | [rprichard1@watc.edu](mailto:rprichard1@watc.edu)

Aerospace Coatings & Paint  
Aviation Manufacturing  
Aviation Maintenance  
Avionics  
Composites  
Non-Destructive Testing



**JENNA GANNON (SSC)**  
316.677.1009 | [jgannon1@watc.edu](mailto:jgannon1@watc.edu)

General Education  
Transfer Students

Visit [WATC.edu](http://WATC.edu) to apply or  
one of our enrollment centers:

**316.677.9400**

**NATIONAL CENTER FOR AVIATION TRAINING (NCAT)**  
4004 N. Webb Road | WICHITA, KS 67226

**SOUTHSIDE CENTER (SSC)**  
4501 East 47th Street South | Wichita, KS 67210



**WATC**

WICHITA AREA  
TECHNICAL COLLEGE

# **PROGRAMS OF STUDY**



## Administrative Office Technology (Online), AAS

### Curriculum

Course Code	Course Name	Credits
<b>Required Courses</b>		
ACC 105	Fundamentals of Accounting	3
BUS 104	Introduction to Business	3
BUS 106	Office Procedures	3
BUS 121	Business Communications	3
BUS 130	Personal Finance	3
BUS 200	Principles of Management	3
CED 102	Keyboarding	1
CED 115	Computer Applications	3
CED 120	Advanced Computer Applications	3
CED 125	Introduction to Desktop Publishing	3
ECO 105	Principles of Macroeconomics	3
ECO 110	Principles of Microeconomics	3
ENG 101	Composition I	3
ENG 120	Composition II	3
MGT 111	Business Ethics	3
MTH 101	Intermediate Algebra	3
OPM 115	Introduction to Project Management	3
PDV 105	Global Professional Standards	2
BIO 110	Principles of Biology	5
	OR	
CHM 110	General Chemistry	
	OR	
PHS 110	Physical Science	
HIS 110	United States History to 1877	3
	OR	
HIS 120	United States History since 1865	
	OR	
PHL 110	Ethics	
PSY 101	General Psychology	3
	OR	
SOC 101	Principles of Sociology	
SPH 101	Public Speaking	3
	OR	
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>65</b>

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$4,385.00
Fees	\$2,015.00
Lab & Online Fees	\$1,379.00
<b>TOTAL</b>	<b>\$7,779.00</b>

\*Cost does not include books or tools.

[Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	NA
Placement rate	NA

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$34,770	\$16.72

\*Some courses may have a prerequisite in addition to the classes listed above.



# Advanced Auto Collision Repair, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
TAC 131	Structural Analysis & Damage I	2
TAC 132	Structural Analysis & Damage II	2
TAC 133	Structural Analysis & Damage III	3
TAC 134	Structural Analysis & Damage IV	3
TAC 141	Paint & Refinish I	3
TAC 142	Paint & Refinish II	3
TAC 143	Paint & Refinish III	3
TAC 144	Paint & Refinish IV	4
TAC 151	Nonstructural Analysis & Damage I	4
TAC 152	Nonstructural Analysis & Damage II	4
TAC 153	Nonstructural Analysis & Damage III	4
TAC 154	Nonstructural Analysis & Damage IV	5
TAC 160	Mechanical & Electrical Components	3
TAC 161	Mechanical & Electrical 2	3
<b>Required General Education Courses</b>		
CEC 101	Computer Essentials	2
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>51</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Grove Campus  
 301 S. Grove | Wichita, KS 67211  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$5,395.00
Fees	\$1,581.00
Lab Fees	\$1,584.00
<b>TOTAL</b>	<b>\$8,560.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 14  
 Placement rate 92%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$50,240	\$24.15



# Advanced Robotics Technology, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 112	Safety/OSHA 10	1
ROB 100	Introduction to Robotics	3
ROB 101	Manufacturing Control & Work Cell Interfacing	2
ROB 102	Work Cell Design Laboratory	1
ROB 103	Applied Robotics Lab I	3
ROB 104	Robotics Simulation	2
ROB 106	Robotics Controller Maintenance	3
ROB 110	Applied Robotics Lab II	3
ROB 111	Advanced Robot Controller Programming	2
ROB 125	Advanced Industrial Workcell Programming	3
PDV 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
MTH 112	College Algebra	3
MTH 113	Trigonometry	3
PHS 120	General Physics I	5
<b>Total</b>		<b>36</b>

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$4,425.00
Fees	\$1,116.00
Lab Fees	\$1,206.00
<b>TOTAL</b>	<b>\$6,747.00</b>

\*Cost does not include online fees, books or tools.  
[Financial Assistance](#) may be available to those who qualify.

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.



# Aerospace Coatings & Paint, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
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 107	Aerospace Program Management	3
ACP 111	Technical Co-Operative Project	4
AVC 102	Precision Instruments	1
AVC 103	Geometric Dimensioning & Tolerancing	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
MTH 020	Math Fundamentals	3
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 101	Computer Essentials	2
<b>Total</b>		<b>48</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$6,275.00
Fees	\$1,488.00
Lab Fees	\$2,521.00
<b>TOTAL</b>	<b>\$10,284.00</b>

\*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.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	3
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$44,800	\$21.54



## Aerospace Coatings and Paint, AAS

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
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 107	Aerospace Program Management	3
ACP 111	Technical Co-Operative Project	4
AVC 102	Precision Instruments	1
AVC 103	Geometric Dimensioning & Tolerancing	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
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
CHM 110	General Chemistry	5
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
PSY 101	General Psychology	3
	OR	
SOC 101	Principles of Sociology	3
SPH 101	Public Speaking	3
	OR	
SPH 111	Interpersonal Communication	3
<b>Total</b>		<b>63</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$7,280.00
Fees	\$1,953.00
Lab Fees	\$2,580.00
<b>TOTAL</b>	<b>\$11,813.00</b>

\*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.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	3
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$44,800	\$21.54



# Aerospace Manufacturing Technology, AAS

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 102	Precision Instruments	1
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 125	Bonding and Grounding	1
AVC 135	Hand Tools	1
PVD 105	Global Professional Standards	2
LEN 100	Lean for Operations	3
NDT 114	Visual Inspection	3
<b>Electives (minimum of 21 credits required)</b>		
AER 106	Aerospace Manufacturing Tooling Orientation	1
AER 111	Tap and Die	1
AER 115	Aerostructures Assembly	6
AER 116	Hand and Power Tools for Aerospace Tooling	1
AER 126	Tooling Capstone	4
AER 135	Quality Assurance Orientation	1
AER 140	Assembly Mechanic Orientation	1
AER 150	Assembly Overview I	3
AER 155	Aerospace Plumbing	2
AER 165	Electrical Assembly Mechanic Orientation	1
AER 166	Electrical Hand Tools	1
AER 167	Basic Drilling & Riveting/Ground Stud Installation	2
AER 168	Wire Installation Drawings	1
AER 169	Crimping & Cables	2
AER 170	Fiber Optics for Aerospace	1
AER 175	Wire Bundle Basics	1
AER 180	Soldering	1
AER 185	Wire Bundle Installation	2
AVC 103	Geometric Dimensioning & Tolerancing	1
AVC 108	Aircraft Systems & Components	4
AVC 140	Electrical Bonding & Grounding	1
AVC 145	Power Island	1
AVC 150	Human Factors	1

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$6,511.00
Fees	\$1,922.00
Lab Fees	\$2,173.00
<b>TOTAL</b>	<b>\$10,606.60</b>

\*Cost does not include online fees, books or tools.  
[Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	6
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$37,390	\$17.97



AVC 165 Technical Writing	1
AVC 170 Conflict Resolution	1
CFT 101 Introduction to Composites	2
CFT 135 Overview of Composite Inspection	1
MTH 020 Math Fundamentals	3
CED 101 Computer Essentials	2
<b>Required General Education Courses</b>	
BUS 121 Business Communications	3
CED 115 Computer Applications	3
ENG 101 Composition I	3
MTH 112 College Algebra	3
PHS 120 General Physics I	5
OR	
PSH 110 Physical Science	
PSY 101 General Psychology	3
OR	
SOC 101 Principles of Sociology	
SPH 101 Public Speaking	3
OR	
SPH 111 Interpersonal Communication	
<b>Total</b>	<b>62</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [wac.edu/checklist](http://wac.edu/checklist) for program admission requirements.



# Aerospace Manufacturing, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AER 115	Aerostructures Assembly	6
AER 140	Assembly Mechanic Orientation	1
AVC 102	Precision Instruments	1
AVC 103	Geometric Dimensioning & Tolerancing	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
AVC 150	Human Factors	1
CFT 101	Introduction to Composites	2
MTH 020	Math Fundamentals	3
PVD 105	Global Professional Standards	2
<b>Total</b>		<b>32</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$3,741.00
Fees	\$992.00
Lab Fees	\$2,405.00
<b>TOTAL</b>	<b>\$7,138.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	6
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$37,390	\$17.97



# Aerospace Quality Control, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AER 135	Quality Assurance Orientation	1
AER 150	Assembly Overview I	3
AER 155	Aerospace Plumbing	2
AER 168	Wire Installation Drawings	1
AER 169	Crimping & Cables	2
AER 175	Wire Bundle Basics	1
AVC 102	Precision Instruments	1
AVC 103	Geometric Dimensioning & Tolerancing	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 165	Technical Writing	1
AVC 170	Conflict Resolution	1
CFT 101	Introduction to Composites	2
CFT 135	Overview of Composite Inspection	1
MTH 020	Math Fundamentals	3
PDV 105	Global Professional Standards	2
<b>General Education Courses</b>		
CED 101	Computer Essentials	2
SPH 101	Public Speaking	3
OR		
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>40</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$4,551.00
Fees	\$1,240.00
Lab Fees	\$1,880.00
<b>TOTAL</b>	<b>\$7,671.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study    NA  
 Placement rate    NA

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
NA	NA



# Aerospace Tooling, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AER 106	Aerospace Manufacturing Tooling Orientation	1
AER 111	Tap & Die	1
AER 116	Hand and Power Tools for Aerospace Tooling	1
AER 126	Tooling Capstone	4
AER 150	Assembly Overview I	3
AVC 102	Precision Instruments	1
AVC 103	Geometric Dimensioning & Tolerancing	1
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 125	Bonding and Grounding	1
AVC 135	Hand Tools	1
AVC 145	Power Island	1
MTH 020	Math Fundamentals	3
PVD 105	Global Professional Standards	2
<b>Total</b>		<b>27</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$3,193.00
Fees	\$837.00
Lab Fees	\$996.00
<b>TOTAL</b>	<b>\$5,026.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study    NA  
 Placement rate    NA

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
NA	NA



# Airbrush Technology, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ACP 115	Introduction to Airbrush	3
ACP 120	Intermediate Airbrush I	3
ACP 125	Intermediate Airbrush II	3
ACP 160	Advanced Airbrush	3
	OR	
	additional ACP elective (see below)	
AVC 102	Precision Instruments	1
AVC 104	Quality Control Concepts	1
AVC 110	Safety/OSHA 10	1
<b>Electives (if taken in place of ACP 160)</b>		
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 107	Aerospace Program Management	3
ACP 111	Technical Co-Operative Project	4
<b>Total</b>		<b>15</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,166.00
Fees	\$465.00
Lab Fees	\$560.00
<b>TOTAL</b>	<b>\$3,191.00</b>

\*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.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	3
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$44,800	\$21.54



## Airbrush Technology, TC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ACP 111	Technical Co-Operative Project	4
ACP 115	Introduction to Airbrush	3
ACP 120	Intermediate Airbrush I	3
ACP 125	Intermediate Airbrush II	3
ACP 160	Advanced Airbrush	3
AVC 102	Precision Instruments	1
AVC 103	Geometric Dimensioning & Tolerancing	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
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 101	Computer Essentials	2
<b>Electives (minimum of 16 credit hours required)</b>		
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 107	Aerospace Program Management	3
<b>Total</b>		<b>48</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,166.00
Fees	\$1,488.00
Lab Fees	\$1,981.00
<b>TOTAL</b>	<b>\$9,999.00</b>

\*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.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	3
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$44,800	\$21.54



# Airframe, TC

## Curriculum

CRN	Course Name	Credits
<b>General Curriculum</b> (must be complete before Airframe Curriculum)		
AMT 105	Technical Mathematics	2
AMT 107	Aircraft Drawings	1
AMT 109	Physics	2
AMT 111	Materials & Processes	4
AMT 113	Basic Electricity	4
AMT 115	Weight & Balance	2
AMT 117	Mechanics Privileges & Limitations	1
AMT 119	Maintenance Publications, Forms, & Records	2
AMT 123	Cleaning & Corrosion Control	1
AMT 125	Fluid Lines & Fittings	1
AMT 127	Ground Operations & Service	2
AMT 131	General Review & Test	0
<b>Airframe I Curriculum</b>		
AMT 108	Aircraft Coverings	2
AMT 112	Assembly & Rigging	4
AMT 153	Hydraulic & Pneumatic Power Systems	2
AMT 159	Aircraft Fuel Systems	2
AMT 167	Aircraft Welding	2
AMT 177	Wood Structures	1
AMT 179	Aircraft Sheetmetal & Non-Metallic Structures	7
AMT 183	Aircraft Finishes	2
<b>Airframe II Curriculum</b>		
AMT 116	Aircraft Instrument Systems	1
AMT 120	Airframe Inspection	3
AMT 151	Aircraft Electrical Systems	6
AMT 155	Aircraft Landing Gear Systems	4
AMT 161	Fire Protection Systems	1
AMT 163	Ice & Rain Control Systems	1
AMT 165	Cabin Atmosphere Control Systems	2
AMT 169	Communication & Navigation Systems	2
AMT 173	Position & Warning Systems	1
AMT 186	Airframe Review & Test	0
<b>Total</b>		<b>65</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watac.edu/checklist](http://watac.edu/checklist) for program admission requirements.

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

### Start Dates

August 2015 January 2016  
May 2016 August 2016

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watac.edu/campuses](http://watac.edu/campuses)

### Costs\*

Tuition	\$12,025.00
Fees	\$2,015.00
Lab Fees	\$1,707.00
<b>TOTAL</b>	<b>\$14,749.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify. Tool price totals \$856.74

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	67
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$57,380	\$27.58

## **Airframe TC Addendum**

All Airframe TC program students are required to purchase tool kits via WATC. Tool price totals \$856.74. Tools may not be purchased outside of WATC.





# Architectural Design Technology, AAS

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 112	Blueprint Reading	2
MCD 112	Industrial Materials & Processes	2
MCD 101	Introduction to CAD I	3
MCD 102	Introduction to CAD II	2
MCD 105	Technical Drafting I	1
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 140	Drafting Technology Internship	4
OR		
CAT 101	CATIA Part Design & Sketcher	
MCD 205	Residential Drafting	3
MCD 206	Commercial Drafting & Design	3
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
PSY 101	General Psychology	3
OR		
SOC 101	Principles of Sociology	
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
OR		
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>60</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 North Webb Road | Wichita, KS 67226  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$7,547.00
Fees	\$1,860.00
Lab Fees	\$900.00
<b>TOTAL</b>	<b>\$10,307.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	1
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$45,580	\$21.91



# Architectural Design Technology, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 112	Blueprint Reading	2
MCD 112	Industrial Materials & Processes	2
MCD 101	Introduction to CAD I	3
MCD 102	Introduction to CAD II	2
MCD 105	Technical Drafting I	1
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
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 101	Computer Essentials	2
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
OR		
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>43</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 North Webb Road | Wichita, KS 67226  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$5,578.00
Fees	\$1,333.00
Lab Fees	\$733.00
<b>TOTAL</b>	<b>\$7,644.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	1
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$45,580	\$21.91



## Assembly Mechanic, TC (Sheet Metal)

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AER 115	Aerostructures Assembly	6
AER 140	Assembly Mechanic Orientation	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 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
MTH 020	Math Fundamentals	3
PVD 105	Global Professional Standards	2
<b>Total</b>		<b>24</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,755.00
Fees	\$744.00
Lab Fees	\$2,010.00
<b>TOTAL</b>	<b>\$5,509.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 86  
 Placement rate 92%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$37,390	\$17.97



## Auto Collision Repair, AAS

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
PVD 105	Global Professional Standards	2
TAC 131	Structural Analysis & Damage I	2
TAC 132	Structural Analysis & Damage II	2
TAC 133	Structural Analysis & Damage III	3
TAC 134	Structural Analysis & Damage IV	3
TAC 141	Paint & Refinish I	3
TAC 142	Paint & Refinish II	3
TAC 143	Paint & Refinish III	3
TAC 144	Paint & Refinish IV	4
TAC 151	Nonstructural Analysis & Damage I	4
TAC 152	Nonstructural Analysis & Damage II	4
TAC 153	Nonstructural Analysis & Damage III	4
TAC 154	Nonstructural Analysis & Damage IV	5
TAC 160	Mechanical & Electrical Components	3
TAC 161	Mechanical & Electrical 2	3
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
PSY 101	General Psychology	3
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
	OR	
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>63</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

Grove Campus  
301 S. Grove | Wichita, KS 67211  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$6,229.00
Fees	\$1,953.00
Lab Fees	\$1,584.00
<b>TOTAL</b>	<b>\$9,766.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 14  
Placement rate 93%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$50,240	\$24.15



# Auto Collision Repair, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
TAC 131	Structural Analysis & Damage I	2
TAC 132	Structural Analysis & Damage II	2
TAC 133	Structural Analysis & Damage III	3
TAC 134	Structural Analysis & Damage IV	3
TAC 141	Paint & Refinish I	3
TAC 142	Paint & Refinish II	3
TAC 143	Paint & Refinish III	3
TAC 144	Paint & Refinish IV	4
TAC 151	Nonstructural Analysis & Damage I	4
TAC 152	Nonstructural Analysis & Damage II	4
TAC 153	Nonstructural Analysis & Damage III	4
TAC 154	Nonstructural Analysis & Damage IV	5
<b>Required General Education Courses</b>		
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>43</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Grove Campus  
 301 S. Grove | Wichita, KS 67211  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$4,601.00
Fees	\$1,333.00
Lab Fees	\$1,462.00
<b>TOTAL</b>	<b>\$7,396.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2013 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 14  
 Placement rate 93%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$50,240	\$24.15



# Auto Service Technology, AAS

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
PDV 105	Global Professional Standards	2
TAS 121	Engine Repair	4
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 132	Engine Performance II	5
TAS 133	Brakes I	3
TAS 134	Brakes II	1
TAS 135	Automotive Computer Systems	3
TAS 136	Suspension and Steering I	3
TAS 137	Suspension and Steering II	2
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
PSY 101	General Psychology	3
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
OR		
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>61</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watac.edu/checklist](http://watac.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Grove Campus  
 301 S. Grove | Wichita, KS 67211  
 316.677.9400 Get maps at [watac.edu/campuses](http://watac.edu/campuses)

### Costs\*

Tuition	\$5,569.00
Fees	\$1,891.00
Lab Fees	\$1,562.00
<b>TOTAL</b>	<b>\$9,022.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 23  
 Placement rate 96%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$37,120	\$17.84



## Auto Service Technology, COC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
TAS 124	Electrical I	3
TAS 128	Heating and Air Conditioning	4
TAS 131	Engine Performance I	3
TAS 133	Automotive Brake Systems I	3
TAS 136	Suspension and Steering I	3
PDV 105	Global Professional Standards	2
<b>Total</b>		<b>18</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Grove Campus  
 301 S. Grove | Wichita, KS 67211  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,114.00
Fees	\$465.00
Lab Fees	\$266.00
<b>TOTAL</b>	<b>\$2,845.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



# Auto Service Technology, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
PDV 105	Global Professional Standards	2
TAS 121	Engine Repair	4
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 132	Engine Performance II	5
TAS 133	Brakes I	3
TAS 134	Brakes II	1
TAS 135	Automotive Computer Systems	3
TAS 136	Suspension and Steering I	3
TAS 137	Suspension and Steering II	2
<b>Required General Education Courses</b>		
CED 101	Computer Essentials	2
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>51</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [wac.edu/checklist](http://wac.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Grove Campus  
 301 S. Grove | Wichita, KS 67211  
 316.677.9400 Get maps at [wac.edu/campuses](http://wac.edu/campuses)

### Costs\*

Tuition	\$4,899.00
Fees	\$1,581.00
Lab Fees	\$1,562.00
<b>TOTAL</b>	<b>\$8,042.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 23  
 Placement rate 96%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$37,120	\$17.84





# AutoCAD, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
MCD 101	Introduction to CAD I	3
MCD 102	Introduction to CAD II	2
MCD 124	Advanced AutoCAD	4
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
MTH 101	Intermediate Algebra	3
<b>Total</b>		<b>14</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 North Webb Road | Wichita, KS 67226  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$1,715.00
Fees	\$434.00
Lab Fees	\$155.00
<b>TOTAL</b>	<b>\$2,304.00</b>

\*Cost includes standard prerequisite classes required for certificate completion. Cost does not include online fee, books, or tools.



# Aviation Maintenance Technology, AAS

## Curriculum

CRN	Course Name	Credits
<b>General Curriculum</b> (must be complete before Airframe & Powerplant Curriculum)		
AMT 105	Technical Mathematics	2
AMT 107	Aircraft Drawings	1
AMT 109	Physics	2
AMT 111	Materials & Processes	4
AMT 113	Basic Electricity	4
AMT 115	Weight & Balance	2
AMT 117	Mechanics Privileges & Limitations	1
AMT 119	Maintenance Publications, Forms, & Records	2
AMT 123	Cleaning & Corrosion Control	1
AMT 125	Fluid Lines & Fittings	1
AMT 127	Ground Operations & Service	2
AMT 131	General Review & Test	0
<b>Airframe I Curriculum</b>		
AMT 108	Aircraft Coverings	2
AMT 112	Assembly & Rigging	4
AMT 153	Hydraulic & Pneumatic Power Systems	2
AMT 159	Aircraft Fuel Systems	2
AMT 167	Aircraft Welding	2
AMT 177	Wood Structures	1
AMT 179	Aircraft Sheetmetal & Non-Metallic Structures	7
AMT 183	Aircraft Finishes	2
<b>Airframe II Curriculum</b>		
AMT 116	Aircraft Instrument Systems	1
AMT 120	Airframe Inspection	3
AMT 151	Aircraft Electrical Systems	6
AMT 155	Aircraft Landing Gear Systems	4
AMT 161	Fire Protection Systems	1
AMT 163	Ice & Rain Control Systems	1
AMT 165	Cabin Atmosphere Control Systems	2
AMT 169	Communication & Navigation Systems	2
AMT 173	Position & Warning Systems	1
AMT 186	Airframe Review & Test	0
<b>Powerplant I Curriculum</b>		
AMT 136	Propellers	4
AMT 200	Reciprocating Engines	9
AMT 204	Engine Fuel Systems	1

### Start Dates

August 2016 January 2016  
May 2016 August 2016

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$20,985.00
Fees	\$3,813.00
Lab Fees	\$2,505.00
<b>TOTAL</b>	<b>\$25,507.00</b>

\*Cost does not include online fees, books or tools.  
[Financial Assistance](#) may be available to those who qualify. Tool price totals \$1,751.92

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	17
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$57,380	\$27.58

AMT 206	Auxiliary Power Units	1
AMT 227	Turbine Engines	8
<b>Powerplant II Curriculum</b>		
AMT 202	Engine Inspection	2
AMT 203	Powerplant Ignition Systems	3
AMT 207	Fuel Metering Systems	4
AMT 208	Engine Electrical Systems	2
AMT 211	Powerplant Cooling Systems	1
AMT 213	Lubrication Systems	3
AMT 217	Induction Systems	1
AMT 219	Powerplant Exhaust Systems	2
AMT 223	Powerplant Fire Protection Systems	1
AMT 225	Powerplant Instrument Systems	1
AMT 231	Powerplant Test & Review	0
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
ENG 101	Composition I	3
MTH 112	College Algebra	3
PSY 101	General Psychology	3
	OR	
SOC 101	Principles of Sociology	
SPH 111	Interpersonal Communication	3
<b>Total</b>		<b>123</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [wac.edu/checklist](http://wac.edu/checklist) for program admission requirements.

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

## **Aviation Maintenance Technology, AAS Addendum**

All AMT program students are required to purchase tool kits via WATC. This purchase will be made in the Airframe 2 (\$856.74) and Powerplant 2 (\$895.18) semesters of the program. For a total of \$1,751.92. Tools may not be purchased outside of WATC



# Avionics, AAS

## Curriculum

### Start Dates

August 2015 January 2016

CRN	Course Name	Credits	Location
<b>Required Technical Courses</b>			
AVT 101	Basic Electricity & Electronics	3	National Center for Aviation Training 4004 N. Webb Road   Wichita, KS 67226 316.677.9400 Get maps at <a href="http://watc.edu/campuses">watc.edu/campuses</a>
AVT 102	Basic Electricity & Electronics Lab	3	
AVT 103	Introduction to Avionics	3	
AVT 105	Avionics Systems & Troubleshooting	2	
AVT 106	Avionics Systems & Troubleshooting Lab	3	
AVT 107	Basic Communications Electronics	3	
AVT 108	Wiring & Cannon Plug Lab	2	
AVT 110	Aircraft Electrical, Communication, & Navigation Systems (Part 1)	3	
AVT 111	Aircraft Electrical, Communication, & Navigation Systems (Part 1) Lab	3	
AVT 112	Aircraft Electrical, Communication, & Navigation Systems (Part 2)	2	
AVT 113	Aircraft Electrical, Communications, & Navigation Systems (Part 2) Lab	3	
AVT 115	Basic Communications Electronics Lab	3	
AVT 122	Practical Electronics Technology for NCATT Applications	4	
AVT 125	Digital Electronics Fundamentals	2	
AVT 126	Digital Electronics Fundamentals Lab	2	
AVT 135	Advanced Analog & Digital Communications	2	
AVT 136	Advanced Analog & Digital Communications Lab	2	
PVD 105	Global Professional Standards	2	
<b>Required General Education Courses</b>			
CED 115	Computer Applications	3	
ENG 101	Composition I	3	
MTH 112	College Algebra	3	
PSY 101	General Psychology	3	
SPH 111	Interpersonal Communication	3	
	OR		
SPH 101	Public Speaking		
<b>Total</b>		<b>62</b>	

### Costs\*

Tuition	\$8,054.00
Fees	\$1,922.00
Lab Fees	\$3,315.00
<b>TOTAL</b>	<b>\$13,291.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	11
Placement rate	78%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$62,340	\$29.97

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.



## Avionics, COC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AVT 101	Basic Electricity & Electronics	3
AVT 102	Basic Electricity & Electronics Lab	3
AVT 103	Introduction to Avionics	3
AVT 108	Wiring & Cannon Plug Lab	2
MTH 101	Intermediate Algebra	3
<b>Total</b>		<b>14</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

January 2016 August 2015

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$1,884.00
Fees	\$434.00
Lab Fees	\$433.00
<b>TOTAL</b>	<b>\$2,751.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 11  
Placement rate 78%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$62,340	\$29.97



# Avionics, TC

## Curriculum

### Start Dates

January 2016 August 2015

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AVT 101	Basic Electricity & Electronics	3
AVT 102	Basic Electricity & Electronics Lab	3
AVT 103	Introduction to Avionics	3
AVT 105	Avionics Systems & Troubleshooting	2
AVT 106	Avionics Systems & Troubleshooting Lab	3
AVT 107	Basic Communications Electronics	3
AVT 108	Wiring & Cannon Plug Lab	2
AVT 110	Aircraft Electrical, Communication, & Navigation Systems (Part 1)	3
AVT 111	Aircraft Electrical, Communication, & Navigation Systems (Part 1) Lab	3
AVT 112	Aircraft Electrical, Communication, & Navigation Systems (Part 2)	2
AVT 113	Aircraft Electrical, Communications, & Navigation Systems (Part 2) Lab	3
AVT 115	Basic Communications Electronics Lab	3
AVT 125	Digital Electronics Fundamentals	2
AVT 126	Digital Electronics Fundamentals Lab	2
MTH 101	Intermediate Algebra	3
PVD 105	Global Professional Standards	2
<b>Total</b>		<b>42</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watac.edu/checklist](http://watac.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 [watac.edu/campuses](http://watac.edu/campuses)

### Costs\*

Tuition	\$6,026.00
Fees	\$1,302.00
Lab Fees	\$3,306.00
<b>TOTAL</b>	<b>\$10,634.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 11  
 Placement rate 78%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$62,340	\$29.97



## Basic Robotics Technology, TC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
ROB 100	Introduction to Robotics	3
ROB 101	Manufacturing Control & Work Cell Interfacing	2
ROB 103	Applied Robotics Lab I	3
ROB 104	Robotics Simulation	2
PDV 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
MTH 112	College Algebra	3
<b>Total</b>		<b>16</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,029.00
Fees	\$496.00
Lab Fees	\$788.00
<b>TOTAL</b>	<b>\$3,313.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.





## Business Administration, AAS

### Curriculum

CRN	Course Name	Credits
<b>Required Courses</b>		
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
ART 100	Art Appreciation	3
BUS 104	Intro to Business	3
BUS 130	Personal Finance	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
HIS 120	United States History since 1865	3
MTH 112	College Algebra	3
OPM 115	Introduction to Project Management	3
PHL 115	Logic	3
PSY 101	General Psychology	3
SPH 101	Public Speaking	3
BIO 110	Principles of Biology	5
	OR	
CHM 110	General Chemistry	
	OR	
PHS 110	Physical Science	
<b>Electives (minimum of 3 credit hours required)</b>		
ACC 152	Payroll Accounting	3
BAF 105	Introduction to US Financial System	3
BIO 120	Environmental Biology	3
BUS 121	Business Communication	3
BUS 125	Business Law	3
ENT 110	Introduction to Entrepreneurship	3
MTH 120	Elementary Statistics	3
PSS 100	Six Sigma Yellow Belt	1
PSS 101	Six Sigma Green Belt Methods	3
PSS 105	Six Sigma Green Belt Statistics	3
SOC 101	Principles of Sociology	3
<b>Total</b>		<b>65</b>

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$4,355.00
Fees	\$2,015.00
Lab Fees	\$59.00
<b>TOTAL</b>	<b>\$6,429.00</b>

\*Cost does not include lab 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.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 9  
 Placement rate 89%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$34,770	\$16.72



# Carpentry, Technical Certificate

## Program Description

The carpentry program prepares students in the basic skills necessary for all occupations in construction. Students begin their study in nine modules, which include: safety; math; materials; hand and power tools; construction drawings; basic rigging; communication; and employability skills. Students then advance to courses which provide hands-on application of technical knowledge and skills. In these courses students will apply all aspects of basic carpentry and will receive instruction in: technical mathematics; framing; construction materials and selection; job estimating; blueprint reading; foundations and roughing-in; finish carpentry techniques; and applicable codes and standards.

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
CCP 100	Introductory Craft Skills	3
CCP 105	Carpentry Basics	4
CCP 110	Floors, Walls, Ceiling and Framing	4
CCP 115	Roof and Framing	3
CCP 120	Windows, Doors and Stairs	3
SAF 101	Safety Orientation / OSHA 10	1
<b>Total</b>		<b>18</b>

## Admission Requirements & Additional Information

[Program Checklist](#)

## Accreditation

WATC is accredited by the Higher Learning Commission.

The Higher Learning Commission  
 230 South LaSalle Street, Suite 7-500 • Chicago, IL 60604  
[www.ncahlc.org](http://www.ncahlc.org) • 800.621.7440

### Start Dates

August 2014 January 2015

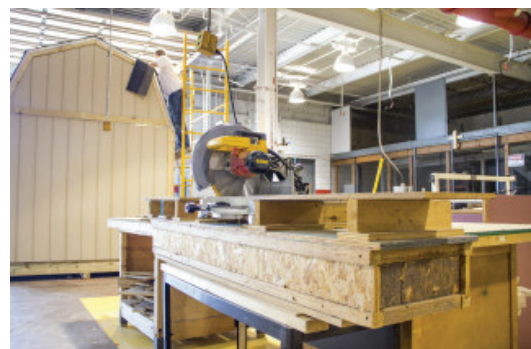
### Location

WATC's Grove Campus  
 301 S. Grove | Wichita, KS 67211  
 316.677.9400 [Maps](#)

### Costs\*

Tuition	\$976.00
Fees	\$1,340.00
Lab Fees	\$1,079.00
<b>TOTAL</b>	<b>\$3,395.00</b>

\*Cost does not include online fees, books or tools. [Assistance](#) may be available to those who qualify.





WATC's Grove Campus is a training, assessment and education facility for the National Center for Construction Education and Research (NCCER).



Currently, WATC is accredited in [Carpentry](#) and [HVAC](#).

### Contact

**4004 N. Webb Road, Wichita, KS 67226**

New students may contact:

Current students may contact:

**Beth Ferrell**

**Kris Dean**

**Admissions Specialist**

**Academic Coach**

Manufacturing

Manufacturing



[eferrell@wate.edu](mailto:eferrell@wate.edu)  
316.677.1091 (NCAT)



[kdean@wate.edu](mailto:kdean@wate.edu)  
316.677.1963 (NCAT / Grove)



# CATIA Machining, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
	AVC 110 Safety/OSHA 10	1
	CAT 101 CATIA Part Design & Sketcher	4
	CAT 105 CATIA Assembly Design	4
	CAT 115 CATIA Prismatic Machining	4
<b>Total</b>		<b>13</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,814.00
Fees	\$403.00
Lab Fees	\$503.00
<b>TOTAL</b>	<b>\$3,720.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



# CATIA Mechanical Engineering Design, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
CAT 101	CATIA Part Design & Sketcher	4
CAT 102	CATIA Drafting	4
CAT 105	CATIA Assembly Design	4
<b>Total</b>		<b>12</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 North Webb Road | Wichita, KS 67226  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,700.00
Fees	\$372.00
Lab Fees	\$295.00
<b>TOTAL</b>	<b>\$3,367.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



# Certified Medication Aide, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
GRA 119	Medication Aide	5
<b>Total</b>		<b>5</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016 June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$475.00
Fees	\$155.00
Lab Fees	\$159.00
<b>TOTAL</b>	<b>\$789.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$22,900	\$11.02



# Certified Nurse Aide, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
GRA 101	Certified Nurse Aide	5
<b>Total</b>		<b>5</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016 June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$475.00
Fees	\$155.00
Lab Fees	\$166.00
<b>TOTAL</b>	<b>\$796.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$22,710	\$10.92



# Chief Architect, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
MCD 112	Industrial Materials & Processes	2
MCD 132	Basic Chief Architect/Architectural Desktop	3
MCD 134	Advanced Chief Architect/Architectural Desktop	3
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>13</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 North Webb Road | Wichita, KS 67226  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$1,565.00
Fees	\$403.00
Lab Fees	\$239.00
<b>TOTAL</b>	<b>\$2,207.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.





## Climate & Energy Control Technologies, AAS

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ACR 112	HVAC Fundamentals	4
ACR 113	Electrical Fundamentals	3
ACR 117	Intro to Mechanical Refrigeration	4
ACR 118	Electrical Fundamentals II	1
ACR 119	Advanced Electrical Theory for HVAC	2
ACR 121	Heating System Fundamentals	3
ACR 122	Heating System Fundamentals II	2
ACR 123	Heat Loads and Duct Sizing	4
ACR 124	Advanced Heating Systems	3
ACR 126	EPA 608	1
ACR 127	Heat Pumps	3
ACR 128	Commercial HVAC	4
ACR 129	Commercial HVAC Lab	4
ACR 140	Sheet Metal	3
CCP 100	Introductory Craft Skills	3
SAF 101	Safety Orientation/OSHA 10	1
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
PSY 101	General Psychology	3
	OR	
SOC 101	Principles of Sociology	
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
	OR	
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>62</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

#### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

#### Location

Grove Campus  
301 S. Grove | Wichita, KS 67211  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

#### Costs\*

Tuition	\$5,936.00
Fees	\$1,829.00
Lab Fees	\$922.00
<b>TOTAL</b>	<b>\$8,687.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

#### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	11
Placement rate	100%

#### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$48,180	\$23.17



## Climate & Energy Control Technologies, TC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
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	1
ACR 119	Advanced Electrical Theory for HVAC	2
ACR 121	Heating System Fundamentals	3
ACR 122	Heating System Fundamentals II	2
ACR 123	Heat Loads and Duct Sizing	4
ACR 124	Advanced Heating Systems	3
ACR 126	EPA 608	1
ACR 127	Heat Pumps	3
ACR 128	Commercial HVAC	4
ACR 129	Commercial HVAC Lab	4
ACR 140	Sheet Metal	3
SAF 101	Safety Orientation/OSHA 10	1
<b>Total</b>		<b>44</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

Grove Campus  
301 S. Grove | Wichita, KS 67211  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$4,931.00
Fees	\$1,364.00
Lab Fees	\$922.00
<b>TOTAL</b>	<b>\$7,217.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	11
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$48,180	\$23.17



## CNC Operator, TC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
AVC 112	Blueprint Reading	2
MMG 101	Machining Blueprint	1
MMG 116	Quality Control & Inspection	1
MMG 131	Metallurgy	1
MMG 155	CNC Lathes	3
MMG 156	CNC Operations	3
MMG 160	CNC Milling I	3
PDV 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>20</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,507.00
Fees	\$620.00
Lab Fees	\$1,765.00
<b>TOTAL</b>	<b>\$4,892.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 20  
Placement rate 95%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$37,060	\$17.82



# Composite Fabrication, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AER 140	Assembly Mechanic Orientation	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 and Grounding	1
AVC 145	Power Island	1
CFT 101	Introduction to Composites	2
CFT 106	Composite Finish Trim	2
CFT 107	Composite Assembly	2
CFT 130	Composite Fabrication Methods/Applications	2
MTH 020	Math Fundamentals	3
PDV 105	Global Professional Standards	2
<b>Total</b>		<b>30</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$3,543.00
Fees	\$930.00
Lab Fees	\$1,974.00
<b>TOTAL</b>	<b>\$6,447.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2013 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 10  
 Placement rate 90%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$44,850	\$21.56



## Composite Repair, TC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AER 140	Assembly Mechanic Orientation	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 and Grounding	1
AVC 145	Power Island	1
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	Disassembly & Damage Removal Techniques	3
CFT 142	Composite Repair	4
CFT 143	Complex Composite Repairs	3
CFT 144	Electrical Bonding Repair	1
MTH 020	Math Fundamentals	3
PDV 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
SPH 111	Interpersonal Communications	3
<b>Total</b>		<b>48</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$5,841.00
Fees	\$1,488.00
Lab Fees	\$4,034.00
<b>TOTAL</b>	<b>\$11,633.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 10  
 Placement rate 90%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$44,850	\$21.56



## Composite Technology, AAS

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AER 140	Assembly Mechanic Orientation	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 and Grounding	1
AVC 145	Power Island	1
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	Disassembly & Damage Removal Techniques	3
CFT 142	Composite Repair	4
CFT 143	Complex Composite Repairs	3
CFT 144	Electrical Bonding Repair	1
LEN 100	Lean Operations	3
PDV 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
CHM 110	General Chemistry	5
SOC 101	Principles of Sociology	3
OR		
PSY 101	General Psychology	
SPH 111	Interpersonal Communications	3
<b>Total</b>		<b>63</b>

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$6,846.00
Fees	\$1,953.00
Lab Fees	\$4,363.00
<b>TOTAL</b>	<b>\$13,162.00</b>

\*Cost does not include online fees, books or tools.  
[Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 10  
 Placement rate 90%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012);  
 Mean Wages of selected occupation in Wichita, KS.  
 WATC does not guarantee the below wages.

Annually	Hourly
\$44,850	\$21.56

\*Some courses may have a prerequisite in addition to the classes listed above.  
 Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for



# Dental Assistant, AAS

## Curriculum

### Required General Education Courses

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
DAS 113	Dental Materials I	4
DAS 114	Dental Radiology I	3
DAS 119	Dental Anatomy	2
DAS 120	Dental Science	2
DAS 122	Chairside Assisting I	4
DAS 140	Chairside Assisting II	2
DAS 146	Dental Radiology II	1
DAS 147	Dental Practice Management	3
DAS 148	Dental Materials II	1
DAS 149	Infection Control for Dental Practice	2
DAS 150	Clinical Experience	7
<b>Required General Education Courses</b>		
BIO 150	Human Anatomy and Physiology	5
CED 115	Computer Applications	3
CPR 001	CPR for Healthcare Providers	1
ALH 101	Medical Terminology	3
ALH 110	Principles of Nutrition	3
ALH 130	Emergency Preparedness for Healthcare	1
ALH 131	Diseases, Disorders & Diagnostic Procedures	2
PSY 101	General Psychology	3
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
	OR	
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>61</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$5,254.00
Fees	\$2,005.00
Lab Fees	\$1378.00
<b>TOTAL</b>	<b>\$8,637.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 16  
 Placement rate 94%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$34,940	\$16.80



# Dental Assistant, TC

## Curriculum

### Required General Education Courses

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
DAS 113	Dental Materials I	4
DAS 114	Dental Radiology I	3
DAS 119	Dental Anatomy	2
DAS 120	Dental Science	2
DAS 122	Chairside Assisting I	4
DAS 140	Chairside Assisting II	2
DAS 146	Dental Radiology II	1
DAS 147	Dental Practice Management	3
DAS 148	Dental Materials II	1
DAS 149	Infection Control for Dental Practice	2
DAS 150	Clinical Experience	7
<b>Required General Education Courses</b>		
BIO 150	Human Anatomy and Physiology	5
CPR 001	CPR for Healthcare Providers	1
<b>Total</b>		<b>37</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$3,750.00
Fees	\$1,147.00
Lab Fees	\$1,316.00
<b>TOTAL</b>	<b>\$6,213.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 17  
 Placement rate 94%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$34,940	\$16.80





# Dental Assisting, COC

## Curriculum

### Required General Education Courses

CRN	Course Name	Credits
	DAS 215 Supragingival Scaling	5
<b>Total</b>		<b>5</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$540.00
Fees	\$155.00
Lab Fees	\$533.00
<b>TOTAL</b>	<b>\$1,228.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



# Electrical Assembly, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AER 165	Electrical Assembly Mechanic Orientation	1
AER 166	Electrical Hand Tools	1
AER 167	Basic Drilling & Riveting/Ground Stud Installation	2
AER 168	Wire Installation Drawings	1
AER 169	Crimping & Cables	2
AER 170	Fiber Optics for Aerospace	1
AER 175	Wire Bundle Basics	1
AER 180	Soldering	1
AER 185	Wire Bundle Installation	2
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
MTH 020	Math Fundamentals	3
PVD 105	Global Professional Standards	2
<b>Total</b>		<b>32</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$3,827.00
Fees	\$992.00
Lab Fees	\$1,668.00
<b>TOTAL</b>	<b>\$6,487.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2013 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	6
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
NA	NA



## Engineering Design Technology, AAS

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 112	Blueprint Reading	2
CAT 101	CATIA Part Design & Sketcher	4
CAT 102	CATIA Drafting	4
CAT 103	CATIA Functional Tolerancing & Annotation	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 105	Technical Drafting I	1
MCD 110	Principles of Tool Design	2
MCD 115	Machine Drafting & Design	3
MCD 121	Descriptive Geometry	3
MCD 124	Advanced AutoCAD	4
PVD 105	Global Professional Standards	2
<b>Electives (minimum of 3 credit hours required)</b>		
CAT 115	CATIA Prismatic Machining	4
CAT 124	CATIA Surface Machining	3
MCD 140	Drafting Technology Internship	4
MCD 201	Geometric Dimensioning & Tolerance	3
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
PHS 120	General Physics I	5
	OR	
PSH 110	Physical Science	
PSY 101	General Psychology	3
	OR	
SOC 101	Principles of Sociology	
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
	OR	
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>65</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

National Center for Aviation Training  
4004 North Webb Road | Wichita, KS 67226  
316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$9,532.00
Fees	\$2,015.00
Lab Fees	\$833.00
<b>TOTAL</b>	<b>\$12,380.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	16
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$60,490	\$29.08



# Engineering Design Technology, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 112	Blueprint Reading	2
CAT 101	CATIA Part Design & Sketcher	4
CAT 102	CATIA Drafting	4
CAT 103	CATIA Functional Tolerancing & Annotation	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 105	Technical Drafting I	1
MCD 110	Principles of Tool Design	2
MCD 115	Machine Drafting & Design	3
MCD 121	Descriptive Geometry	3
MCD 124	Advanced AutoCAD	4
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
OR		
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>48</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [wadc.edu/checklist](http://wadc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 North Webb Road | Wichita, KS 67226  
 316.677.1500 Get maps at [wadc.edu/campuses](http://wadc.edu/campuses)

### Costs\*

Tuition	\$7,994.00
Fees	\$1,488.00
Lab Fees	\$728.00
<b>TOTAL</b>	<b>\$10,210.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	16
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$60,490	\$29.08



# Faux & Decorative Painting, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
INT 131	Faux & Decorative Painting	4
<b>Total</b>		<b>4</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2017  
 June 2017

### Location

Southside Center  
 4501 E. 47th Street South, Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$368.00
Fees	\$124.00
Lab Fees	\$450.00
<b>TOTAL</b>	<b>\$942.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



# Floral Design, COC

## Curriculum

**CRN Course Name Credits**

**Required Technical Courses**

INT 201 Floral Design 4

**Total** 4

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

**Start Dates**

August 2015 October 2015

January 2016 March 2016

June 2016

**Location**

Southside Center

4501 E. 47th Street South, Wichita, KS 67210

316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

**Costs\***

Tuition	\$368.00
Fees	\$124.00
Lab Fees	\$614.00
<b>TOTAL</b>	<b>\$1,106.00</b>

\*Cost does not include online fees, books or tools.

**Wages**

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$22,910	\$11.01



## Gas Metal Arc Welding, COC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
CWG 110	Welding Applications	4
CWG 120	GMAW	3
CWG 121	GMAW II	4
<b>Required General Education Courses</b>		
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>15</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$1,613.00
Fees	\$465.00
Lab Fees	\$1,137.00
<b>TOTAL</b>	<b>\$3,215.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



# Gas Tungsten Arc Welding, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
CWG 110	Welding Applications	4
CWG 125	GTAW	3
CWG 126	GTAW II	4
<b>Required General Education Courses</b>		
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>15</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$1,613.00
Fees	\$465.00
Lab Fees	\$1,065.00
<b>TOTAL</b>	<b>\$3,143.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.





## Healthcare Admin & Management, AAS

### Curriculum

Below is the curriculum required to complete an associate degree in Healthcare Administration & Management. The courses highlighted in gray are part of the [WATC Practical Nurse curriculum](#). If you have earned your PN from WATC and want to complete this degree, only the courses in black are required. For an adjusted academic plan, cost and additional information, contact DaJina Kiel at 316-677-1093.

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
PNR 120	KSPN Foundations of Nursing	4
PNR 121	KSPN Foundations of Nursing Clinicals	2
PNR 122	KSPN Pharmacology	3
PNR 123	KSPN Medical Surgical Nursing I	4
PNR 124	KSPN Medical Surgical Nursing I Clinical	3
PNR 126	KSPN Medical Surgical Nursing II	4
PNR 127	KSPN Medical Surgical Nursing II Clinical	3
PNR 130	KSPN Maternal Child Nursing	2
PNR 131	KSPN Maternal Child Nursing Clinical	1
PNR 132	KSPN Gerontology Nursing	2
PNR 134	Role Development	2
PNR 135	KSPN Mental Health Nursing	2
PNR 136	Transition to Nursing	2
PNR 170	Healthcare Practice Management	3
PNR 180	Healthcare Issues	3
<b>Technical Electives (minimum of 4 credits)</b>		
BIO 160	Microbiology	(5)
	OR	
PNR 175	Healthcare Management Research	(4)
<b>Required General Education Courses</b>		
ALH 110	Principles of Nutrition	3
BIO 150	Human Anatomy & Physiology	5
PSY 101	General Psychology	3
PSY 120	Developmental Psychology	3
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
	OR	
SPH 111	Interpersonal Communication	

**Total**

67 or 68

### Start Dates

August 2015 October 2015

January 2016 March 2016

June 2016

### Location

Southside Center

4501 E. 47th Street South | Wichita, KS 67210

316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$6,836.00
Fees	\$2,108.00
Lab Fees	\$1,856.00
<b>TOTAL</b>	<b>\$10,800.00</b>

\*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.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 130  
Placement rate 95%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$39,300	\$18.89



## Home Health Aide, COC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
	HHA 100 Home Health Aide	2
<b>Total</b>		<b>2</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2015 June 2015

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$190.00
Fees	\$62.00
Lab Fees	\$96.00
<b>TOTAL</b>	<b>\$348.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Wages

BLS Data Source: Bureau of Labor Statistics (2012);  
 Mean Wages of selected occupation in Wichita, KS.  
 WATC does not guarantee the below wages.

Annually	Hourly
\$21,530	\$10.35



# Industrial Automation and Machine Maintenance, AAS

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
IND 100	Industrial Safety Procedures/OSHA 10	1
IND 102	Manufacturing Overview	1
IND 104	Drafting for Industrial Maintenance	1
IND 106	Direct & Alternating Current	4
IND 108	Industrial Wiring	2
IND 109	Basic Industrial Programmable Logic Controls	3
IND 110	DC & AC Motors	1
IND 112	Fundamentals of Motor Control	2
IND 113	Solid State & Digital Devices	3
IND 114	Magnetic Starters & Braking	2
IND 116	Advanced Motor Controls	3
IND 117	Variable Speed Motor Controls	2
IND 119	Industrial Precision Alignment	3
IND 121	Mechanical Systems Reliability	3
IND 123	Industrial Fluid Power	4
IND 125	Industrial Computer Applications	1
IND 130	Mechanical Systems	3
IND 131	Industrial Programmable Logic Controls (PLC)	3
IND 132	Industrial Process Control	3
ROB 100	Introduction to Robotics	3
<b>Required General Education Courses</b>		
ECO 105	Principles of Macroeconomics	3
PHS 120	General Physics I	5
ENG 101	Composition I	3
MTH 112	College Algebra	3
SPH 101	Public Speaking	3
<b>Total</b>		<b>65</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

Grove Campus  
301 S. Grove | Wichita, KS 67211  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$8,129.00
Fees	\$2,015.00
Lab Fees	\$1,382.00
<b>TOTAL</b>	<b>\$11,526.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2013 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	6
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$45,700	\$21.97



# Industrial Automation and Machine Maintenance, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
IND 100	Industrial Safety Procedures/OSHA 10	1
IND 104	Drafting for Industrial Maintenance	1
IND 106	Direct & Alternating Current	4
IND 108	Industrial Wiring	2
IND 109	Basic Industrial Programmable Logic Controls	3
IND 110	DC & AC Motors	1
IND 112	Fundamentals of Motor Control	2
IND 113	Solid State & Digital Devices	3
IND 114	Magnetic Starters & Braking	2
IND 116	Advanced Motor Controls	3
IND 117	Variable Speed Motor Controls	2
IND 119	Industrial Precision Alignment	3
IND 121	Mechanical Systems Reliability	3
IND 123	Industrial Fluid Power	4
IND 125	Industrial Computer Applications	1
IND 130	Mechanical Systems	3
IND 131	Industrial Programmable Logic Controls (PLC)	3
IND 132	Industrial Process Control	3
<b>Required General Education Courses</b>		
MTH 101	Intermediate Algebra	3
<b>Total</b>		<b>47</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watac.edu/checklist](http://watac.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Grove Campus  
 301 S. Grove | Wichita, KS 67211  
 316.677.9400 Get maps at [watac.edu/campuses](http://watac.edu/campuses)

### Costs\*

Tuition	\$6,581.00
Fees	\$1,457.00
Lab Fees	\$875.00
<b>TOTAL</b>	<b>\$8,913.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2013 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	6
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$45,700	\$21.97



# Industrial Radiographer, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
	NDT 100 Penetrant Inspection	2
	NDT 101 Magnetic Particle Testing Method for NDT	3
	NDT 102 45 Hour Radiation Safety	3
	NDT 103 Radiographic Testing Method II	3
	NDT 105 Computed Radiographic Imaging	3
<b>Total</b>		<b>14</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 August 2016

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,450.00
Fees	\$434.00
Lab Fees	\$475.00
<b>TOTAL</b>	<b>\$3,359.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$82,070	\$39.46



## Interior Design, AAS

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
INT 101	Interior Design Fundamentals	2
INT 105	Blueprint Reading for Interior Design	2
INT 110	Color Theory	2
INT 126	Textiles	3
INT 127	Materials for Interior Environments	2
INT 141	History of Furniture & Architecture	3
INT 155	Lighting Technologies	3
INT 160	Design Studio I	3
INT 165	Design Studio II	2
INT 170	Business Practices & Portfolio Development	3
INT 175	Seminars for Interior Design	2
INT 190	Drafting for Interiors	2
INT 192	Illustration for Interior Design	3
INT 193	Rendering for Interior Design	3
INT 196	Interior Design Codes & Standards	3
MCD 101	Introduction to CAD I	3
MCD 102	Introduction to CAD II	2
<b>Electives (minimum of 4 credit hours required)</b>		
INT 100	Accessories	1
INT 131	Faux & Decorative Painting	4
INT 185	Mentorship	1
INT 201	Floral Design	4
INT 218	Kitchen & Bath Design	4
MCD 132	Basic Chief Architect/Architectural Desktop	3
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
ART 100	Art Appreciation	3
OR		
HIS 130	World History I	
PSY 101	General Psychology	3
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
<b>Total</b>		<b>65</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [wac.edu/checklist](http://wac.edu/checklist) for

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

Southside Center  
4501 E. 47th Street South, Wichita, KS 67210  
316.677.1500 Get maps at [wac.edu/campuses](http://wac.edu/campuses)

### Costs\*

Tuition	\$5,820.00
Fees	\$2,015.00
Lab Fees	\$612.00
<b>TOTAL</b>	<b>\$8,447.00</b>

\*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.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	6
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$47,200	\$22.69



## IT Essentials, COC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
	INF 105 A+ Certification – Essentials	3
	INF 110 A+ Certification – Application	3
	INF 115 Network + Part I	3
	INF 116 Network + Part II	3
	INF 120 Security +	3
<b>Total</b>		<b>15</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 January 2016  
August 2016

### Location

Grove  
301 S. Grove | Wichita, KS 67211  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$1,005.00
Fees	\$465.00
Lab Fees	\$1,401.00
<b>TOTAL</b>	<b>\$2,871.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	NA
Placement rate	NA

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$63,610	\$30.58

## PNA 101 IV Therapy for LPNs

### Course Description

This 3 credit hour course 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.

### Outcomes

After successful completion, the student will be able to:

Correlate the Kansas nursing practice act and the current I.V. therapy standards to the role of the licensed practical nurse in performing select intravenous therapy nursing activities and understand the legal ramifications involved in error, as well as the negative effects upon the client if done incorrectly.

Identify various types of commonly used I.V. therapy equipment with usage indicators and means of monitoring for defects/malfunction, and demonstrate intravenous therapy techniques based on the infusion nursing society standards of practice based on the LPN expanded scope of intravenous therapy practice outlined in the Kansas nursing practice act.

Demonstrate knowledge of selected drug and parental solution compatibility and incompatibility and safety considerations in the client receiving cytotoxic drugs.

APPLY NOW

REQ

### Dates

October 19- November 20, 2015

### Location

Southside Center

4501 E. 47th Street South |  
Wichita, KS 67210

316.677.1500

Get maps at  
[watc.edu/campus](http://watc.edu/campus)

### Costs\*

Tuition \$189.00

Fees \$88.50

Lab Fees \$0

**TOTAL \$277.50**



Do simple intravenous flow calculations in the intravenous client population.

\*Cost does not include online fees, books or tools.

## Requirements

Must be a Licensed Practical Nurse

[Click here](#) to view the checklist of requirements.

### Contact

4501 E. 47th Street South, Wichita, KS 67210

New students may contact:

**Ebony Edmondson**  
Admissions Counselor

Nursing



[eedmondson@watc.edu](mailto:eedmondson@watc.edu)  
316.677.1024

Current students may contact:

**DaJina Kiel**  
Academic Coach

Nursing



[dkiel@watc.edu](mailto:dkiel@watc.edu)  
316.677.1093





# Kitchen & Bath Design, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
INT 105	Blueprint Reading for Interior Design	2
INT 110	Color Theory	2
INT 127	Materials for Interior Environments	2
INT 155	Lighting Technologies	3
INT 170	Business Practices & Portfolio Development	3
INT 190	Drafting for Interiors	2
INT 192	Illustration for Interior Design	3
INT 193	Rendering for Interior Design	3
INT 218	Kitchen & Bath Design	4
MCD 101	Introduction to CAD I	3
MCD 102	Introduction to CAD II	2
PDV 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
MTH 101	Intermediate Algebra	3
PSY 101	General Psychology	3
SPH 101	Public Speaking	3
<b>Total</b>		<b>40</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Southside Center  
 4501 E. 47th Street South, Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$3,725.00
Fees	\$1,240.00
Lab Fees	\$239.00
<b>TOTAL</b>	<b>\$5,194.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	6
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$47,200	\$22.69



## Lubrication Technician and Oil Analyst, COC

### Curriculum

#### Start Dates

August 2015 August 2016

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
	AVC 102 Precision Instruments	1
	AVC 110 Safety/OSHA 10	1
	NDT 165 Machine Lubrication and Analysis I	3
	NDT 166 Machine Lubrication and Analysis II	3
	NDT 167 Machine Lubrication and Analysis III	3
<b>Required General Education Courses</b>		
	CED 101 Computer Essentials	2
<b>Total</b>		<b>13</b>

#### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

#### Costs\*

Tuition	\$1,937.00
Fees	\$403.00
Lab Fees	\$314.00
<b>TOTAL</b>	<b>\$2,654.00</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



## Machining Technology, AAS

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
AVC 112	Blueprint Reading	2
CAT 101	CATIA Part Design & Sketcher	4
CAT 105	CATIA Assembly Design	4
CAT 115	CATIA Prismatic Machining	4
MMG 101	Machining Blueprint	1
MMG 115	Machining I	3
MMG 116	Quality Control & Inspection	1
MMG 126	Machining II	3
MMG 130	Bench Work	1
MMG 131	Metallurgy	1
MMG 132	Machine Tool Processes	1
MMG 155	CNC Lathes	3
MMG 156	CNC Operations	3
MMG 160	CNC Milling I	3
MMG 165	Advanced NC Programming	3
PDV 105	Global Professional Standards	2
<b>Technical Electives (minimum 7 credits)</b>		
CAT 124	CATIA Surface Machining	
MCD 170	Geometric Dimensioning & Tolerancing	
MMG 170	CAM I	
MMG 225	Internship/Directed Work Study	
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
	OR	
SPH 111	Interpersonal Communication	
PSY 101	General Psychology	3
	OR	
SOC 101	Principles of Sociology	
<b>Total</b>		<b>62</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$8,711.00
Fees	\$1,922.00
Lab Fees	\$3,438.00
<b>TOTAL</b>	<b>\$14,071.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 20  
Placement rate 95%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$41,700	\$20.05



# Machining Technology, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
AVC 112	Blueprint Reading	2
CAT 101	CATIA Part Design & Sketcher	4
CAT 105	CATIA Assembly Design	4
MMG 101	Machining Blueprint	1
MMG 115	Machining I	3
MMG 116	Quality Control & Inspection	1
MMG 126	Machining II	3
MMG 130	Bench Work	1
MMG 131	Metallurgy	1
MMG 132	Machine Tool Processes	1
MMG 155	CNC Lathes	3
MMG 156	CNC Operations	3
MMG 160	CNC Milling I	3
MMG 165	Advanced NC Programming	3
PDV 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>39</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$5,957.00
Fees	\$1,209.00
Lab Fees	\$3,224.00
<b>TOTAL</b>	<b>\$10,390.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 20  
Placement rate 95%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$41,700	\$20.05



## Manual Machining, TC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
AVC 112	Blueprint Reading	2
MMG 101	Machining Blueprint	1
MMG 115	Machining I	3
MMG 116	Quality Control & Inspection	1
MMG 126	Machining II	3
MMG 130	Bench Work	1
MMG 131	Metallurgy	1
MMG 132	Machine Tool Processes	1
MMG 156	CNC Operations	3
PDV 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>22</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,807.00
Fees	\$682.00
Lab Fees	\$2,615.00
<b>TOTAL</b>	<b>\$5,805.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 20  
Placement rate 95%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$33,100	\$15.91



# Medical Assistant, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ALH 130	Emergency Preparedness for Health Professionals	1
ALH 131	Diseases, Disorders, & Diagnostic Procedures	2
ALH 155	Pharmacology for Allied Health	3
MEA 101	Professional Issues	2
MEA 111	Patient Care I	5
MEA 113	Medical Administrative Aspects	4
MEA 115	Insurance Billing & Coding	3
MEA 116	Pharmacology Medication Administration	2
MEA 121	Patient Care II	4
MEA 125	Clinical Laboratory Procedures	4
MEA 130	Career Strategies	1
MEA 131	Medical Assistant Practicum	6
<b>Required General Education Courses</b>		
ALH 101	Medical Terminology	3
BIO 150	Human Anatomy & Physiology	5
CED 115	Computer Applications	3
CPR 001	CPR for Healthcare Providers	1
<b>Total</b>		<b>49</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$4,729.00
Fees	\$1,633.00
Lab Fees	\$2,848.00
<b>TOTAL</b>	<b>\$9,210.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2013 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 23  
 Placement rate 91%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$25,950	\$12.48



# Medical Assisting, AAS

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ALH 130	Emergency Preparedness for Health Professionals	1
ALH 131	Diseases, Disorders, & Diagnostic Procedures	2
ALH 155	Pharmacology for Allied Health	3
MEA 101	Professional Issues	2
MEA 111	Patient Care I	5
MEA 113	Medical Administrative Aspects	4
MEA 115	Insurance Billing & Coding	3
MEA 116	Pharmacology Medication Administration	2
MEA 121	Patient Care II	4
MEA 125	Clinical Laboratory Procedures	4
MEA 130	Career Strategies	1
MEA 131	Medical Assistant Practicum	6
<b>Required General Education Courses</b>		
ALH 101	Medical Terminology	3
BIO 150	Human Anatomy & Physiology	5
CED 115	Computer Applications	3
CPR 001	CPR for Healthcare Providers	1
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
PSY 101	General Psychology	3
SOC 101	Principles of Sociology	3
SPH 101	Public Speaking	3
OR		
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>64</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$5,734.00
Fees	\$2,098.00
Lab Fees	\$2,848.00
<b>TOTAL</b>	<b>\$10,680.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2013 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 23  
 Placement rate 91%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$25,950	\$12.48





# Medical Coding, AAS

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
MEC 110	Legal and Ethical Issues in Healthcare	3
MEC 115	Pathophysiology	3
MEC 120	International Classification of Disease Coding	4
MEC 125	Introduction to Health Information	3
MEC 130	Reimbursement Methodologies	4
MEC 135	Healthcare Coding Practicum	3
MEC 140	Current Procedural Terminology Coding	3
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
ACC 105	Fundamentals of Accounting	3
ALH 101	Medical Terminology	3
ALH 115	Pharmacology	3
ALH 105	First Aid & CPR	3
BIO 150	Human Anatomy & Physiology	5
CED 115	Computer Applications	3
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SOC 101	Principles of Sociology	3
OR		
PSY 101	General Psychology	
SPH 101	Public Speaking	3
SPH 111	Interpersonal Communication	3
<b>Total</b>		<b>60</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watac.edu/checklist](http://watac.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2016  
 January 2016 March 2016  
 June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watac.edu/campuses](http://watac.edu/campuses)

### Costs\*

Tuition	\$4,119.00
Fees	\$1,860.00
Lab Fees	\$99.00
<b>TOTAL</b>	<b>\$6,078.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study NA  
 Placement rate NA

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$25,950	\$12.48



# Medical Coding, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
	MEC 101 Insurance Billing & Coding for the Physicians Office	3
<b>Required General Education Courses</b>		
	ALH 101 Medical Terminology	3
	BIO 100 Biology Review	1
	BIO 150 Human Anatomy & Physiology	5
<b>Total</b>		<b>12</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watac.edu/checklist](http://watac.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watac.edu/campuses](http://watac.edu/campuses)

### Costs\*

Tuition	\$813.00
Fees	\$372.00
Lab Fees	\$59.00
<b>TOTAL</b>	<b>\$1,244.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study NA  
 Placement rate NA

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$25,950	\$12.48



# Medical Coding, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
	MEC 110 Legal and Ethical Issues in Healthcare	3
	MEC 115 Pathophysiology	3
	MEC 120 International Classification of Disease Coding	4
	MEC 125 Introduction to Health Information	3
	MEC 130 Reimbursement Methodologies	4
	MEC 135 Healthcare Coding Practicum	3
	MEC 140 Current Procedural Terminology Coding	3
<b>Required General Education Courses</b>		
	ALH 101 Medical Terminology	3
	ALH 115 Pharmacology	3
	BIO 150 Human Anatomy & Physiology	5
	CED 115 Computer Applications	3
<b>Total</b>		<b>37</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watac.edu/checklist](http://watac.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watac.edu/campuses](http://watac.edu/campuses)

### Costs\*

Tuition	\$2,749.00
Fees	\$1,240.00
Lab Fees	\$59.00
<b>TOTAL</b>	<b>\$4,048.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study NA  
 Placement rate NA

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$25,950	\$12.48



# Nondestructive Testing, AAS

## Curriculum

### Start Dates

August 2015 August 2016

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AVC 110	Safety/OSHA 10	1
AVC 102	Precision Instruments	1
CFT 101	Introduction to Composites	2
NDT 100	Penetrant Inspection	2
NDT 101	Magnetic Particle Testing Method for NDT	3
NDT 102	45 Hour Radiation Safety	3
NDT 103	Radiographic Testing Method II	3
NDT 105	Computed Radiographic Imaging	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	3
NDT 115	Introduction to Ultrasonic C-Scan & Phased Array	3
NDT 116	Bond Testing for NDT	2
NDT 120	Ultrasonic Phased Array II	2
NDT 125	Phased Array Time of Flight Diffraction (TOFD)	2
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
ENG 101	Composition I	3
PHS 110	Physical Science	5
MTH 112	College Algebra	3
PSY 101	General Psychology	3
	OR	
SOC 101	Principles of Sociology	
SPH 111	Interpersonal Communication	3
	OR	
SPH 101	Public Speaking	
<b>Total</b>		<b>64</b>

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$8,684.00
Fees	\$1,984.00
Lab Fees	\$1,619.00
<b>TOTAL</b>	<b>\$12,287.00</b>

\*Cost does not include online fees, books or tools.  
[Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	13
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$82,070	\$39.46

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.



# Nondestructive Testing, TC

## Curriculum

### Start Dates

August 2015 August 2016

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AVC 110	Safety/OSHA 10	1
AVC 102	Precision Instruments	1
CFT 101	Introduction to Composites	2
NDT 100	Penetrant Inspection	2
NDT 101	Magnetic Particle Testing Method for NDT	3
NDT 102	45 Hour Radiation Safety	3
NDT 103	Radiographic Testing Method II	3
NDT 105	Computed Radiographic Imaging	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	3
NDT 115	Introduction to Ultrasonic C-Scan & Phased Array	3
NDT 116	Bond Testing for NDT	2
NDT 120	Ultrasonic Phased Array II	2
NDT 125	Phased Array Time of Flight Diffraction (TOFD)	2
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 101	Computer Essentials	2
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>49</b>

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watac.edu/campuses](http://watac.edu/campuses)

### Costs\*

Tuition	\$7,679.00
Fees	\$1,519.00
Lab Fees	\$1,586.00
<b>TOTAL</b>	<b>\$10,784.00</b>

\*Cost does not include online fees, books or tools.  
[Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2013 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	13
Placement rate	100%

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watac.edu/checklist](http://watac.edu/checklist) for program admission requirements.

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$82,070	\$39.46



# Operations Management and Supervision, AAS

## Curriculum

CRN	Course Name	Credits
<b>Required Courses</b>		
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 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
HIS 120	United States History since 1865	3
LEN 100	Lean for Operations	3
MTH 112	College Algebra	3
OPM 105	Operations Management for Organizational Success	3
OPM 110	Introduction to Supply Chain Management	3
OPM 115	Introduction to Project Management	3
PSS 100	Six Sigma Yellow Belt	1
PSS 101	Six Sigma Green Belt Methods	3
PSS 105	Six Sigma Green Belt Statistics	3
PSY 101	General Psychology	3
SPH 101	Public Speaking	3
BIO 110	Principles of Biology	5
	OR	
CHM 110	General Chemistry	
	OR	
PHS 110	Physical Science	
<b>Total</b>		<b>66</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$4,422.00
Fees	\$2,046.00
Lab Fees	\$59.00
<b>TOTAL</b>	<b>\$6,527.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 9  
 Placement rate 89%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$34,770	\$16.72



# Operations Management and Supervision, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
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
<b>Total</b>		<b>15</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$1,005.00
Fees	\$465.00
Lab Fees	\$0.00
<b>TOTAL</b>	<b>\$1,470.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



# Operations Management and Supervision, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Courses</b>		
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 200	Principles of Management	3
CED 115	Computer Applications	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
PSS 100	Six Sigma Yellow Belt	1
PSS 101	Six Sigma Green Belt Methods	3
PSS 105	Six Sigma Green Belt Statistics	3
SPH 101	Public Speaking	3
<b>Total</b>		<b>40</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,680.00
Fees	\$1,240.00
Lab Fees	\$0.00
<b>TOTAL</b>	<b>\$3,920.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 9  
 Placement rate 89%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$34,770	\$16.72





# PdM Entry-Level Technician, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AVC 102	Precision Instruments	1
AVC 110	Safety/OSHA 10	1
NDT 150	Vibration Analysis Level I	3
NDT 155	Thermography Level I	3
NDT 165	Machine Lubrication and Analysis I	3
<b>Required General Education Courses</b>		
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>14</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2014 August 2015

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$2,004.00
Fees	\$434.00
Lab Fees	\$300.00
<b>TOTAL</b>	<b>\$2,738.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



# Police Science, AAS

## Curriculum

Course Code	Course Name	Credits	Start Dates	Location	Costs*	Success Rate	Wages
			June 2015    January 2016 August 2015    March 2016 October 2015    June 2016				
<b>Required Technical Courses</b>							
CRJ 101	Introduction to Criminal Justice	3		Southside Center			
CRJ 105	Criminal Investigation	3		4501 E. 47th Street South   Wichita, KS 67210			
CRJ 110	Criminal Law	3		316.677.9400 Get maps at <a href="http://watc.edu/campuses">watc.edu/campuses</a>			
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			Tuition \$4,489.00		
CRJ 145	Corrections	3			Fees \$2,077.00		
CRJ 155	Policing Diverse Cultures	3			Lab Fees \$0.00		
CRJ 160	Internship in Criminal Justice	3			<b>TOTAL \$6,566.00</b>		
CRJ 180	KLETC or Equivalent Law enforcement Academy Training	12			*Cost does not include online fees, books or tools.		
					<a href="#">Financial Assistance</a> may be available to those who qualify.		
<b>Required General Education Courses</b>							
CED 115	Computer Applications	3					
ENG 101	Composition I	3					
MTH 101	Intermediate Algebra	3					
HIS 120	United States History since 1865	3				This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.	
PED 110	Lifetime Fitness	1					
PSY 101	General Psychology	3				Eligible graduates contacted in follow-up study NA	
	OR					Placement rate NA	
SOC 101	Principles of Sociology	3					
SPH 101	Public Speaking	3					
	OR						
SPH 111	Interpersonal Communication	3					
<b>Total</b>		<b>67</b>					
*Some courses may have a prerequisite in addition to the classes listed above. Please <a href="#">contact an Academic Coach</a> for details. Visit <a href="http://watc.edu/checklist">watc.edu/checklist</a> for program admission requirements.							



## Police Science, TC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
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 160	Internship in Criminal Justice	3
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
ENG 101	Composition I	3
PED 110	Lifetime Fitness	1
SPH 101	Public Speaking	3
	OR	
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>46</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

June 2015    January 2016  
 August 2015    March 2016  
 October 2015    June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$3,082.00
Fees	\$1,426.00
Lab Fees	\$0.00
<b>TOTAL</b>	<b>\$4,508.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study    NA  
 Placement rate    NA

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$45,960	\$22.10



## Powerplant, TC

### Curriculum

CRN	Course Name	Credits
<b>General Curriculum</b> (must be complete before Airframe & Powerplant Curriculum)		
AMT 105	Technical Mathematics	2
AMT 107	Aircraft Drawings	1
AMT 109	Physics	2
AMT 111	Materials & Processes	4
AMT 113	Basic Electricity	4
AMT 115	Weight & Balance	2
AMT 117	Mechanics Privileges & Limitations	1
AMT 119	Maintenance Publications, Forms, & Records	2
AMT 123	Cleaning & Corrosion Control	1
AMT 125	Fluid Lines & Fittings	1
AMT 127	Ground Operations & Service	2
AMT 131	General Review & Test	0
<b>Powerplant I Curriculum</b>		
AMT 136	Propellers	4
AMT 200	Reciprocating Engines	9
AMT 204	Engine Fuel Systems	1
AMT 206	Auxiliary Power Units	1
AMT 227	Turbine Engines	8
<b>Powerplant II Curriculum</b>		
AMT 202	Engine Inspection	2
AMT 203	Powerplant Ignition Systems	3
AMT 207	Fuel Metering Systems	4
AMT 208	Engine Electrical Systems	2
AMT 211	Powerplant Cooling Systems	1
AMT 213	Lubrication Systems	3
AMT 217	Induction Systems	1
AMT 219	Powerplant Exhaust Systems	2
AMT 223	Powerplant Fire Protection Systems	1
AMT 225	Powerplant Instrument Systems	1
AMT 231	Powerplant Test & Review	0
<b>Total</b>		<b>65</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watic.edu/checklist](http://watic.edu/checklist) for program admission requirements.

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

### Start Dates

August 2015 January 2016  
May 2016 August 2016

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watic.edu/campuses](http://watic.edu/campuses)

### Costs\*

Tuition	\$12,025.00
Fees	\$2,015.00
Lab Fees	\$1,072.00
<b>TOTAL</b>	<b>\$14,114.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify. Tool price totals \$895.18

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	58
Placement rate	97%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$57,380	\$27.58

## **Powerplant TC Addendum**

All Powerplant TC program students are required to purchase tool kits via WATC. Tool price totals \$895.18. Tools may not be purchased outside of WATC.



# Practical Nurse, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
PNR 120 KSPN	Foundations of Nursing	4
PNR 121 KSPN	Foundations of Nursing Clinical	2
PNR 122 KSPN	Pharmacology	3
PNR 123 KSPN	Medical Surgical Nursing I	4
PNR 124 KSPN	Medical Surgical Nursing I Clinical	3
PNR 126 KSPN	Medical Surgical Nursing II	4
PNR 127 KSPN	Medical Surgical Nursing II Clinical	3
PNR 130 KSPN	Maternal Child Nursing	2
PNR 131 KSPN	Maternal Child Nursing Clinical	1
PNR 132 KSPN	Gerontology Nursing	2
PNR 134	Role Development	2
PNR 135 KSPN	Mental Health Nursing	2
PNR 136	Transition to Nursing	2
<b>Required General Education Courses</b>		
ALH 110	Principles of Nutrition	3
BIO 150	Human Anatomy & Physiology	5
PSY 101	General Psychology	3
PSY 120	Developmental Psychology	3
<b>Total</b>		<b>48</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$5,154.00
Fees	\$1,488.00
Lab Fees	\$1,787.00
<b>TOTAL</b>	<b>\$8,429.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 130  
 Placement rate 95%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$39,300	\$18.89



# Predictive NDT Technologies, AAS

## Curriculum

### Start Dates

August 2015 August 2016

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AVC 102	Precision Instruments	1
AVC 110	Safety/OSHA 10	1
NDT 101	Magnetic Particle Testing Method for NDT	3
NDT 112	Ultrasonic Testing Method Level I	3
NDT 150	Vibration Analysis Level I	3
NDT 151	Vibration Analysis Level II	3
NDT 152	Vibration Analysis Level III	3
NDT 155	Thermography Level I	3
NDT 156	Thermography Level II	3
NDT 157	Thermography Level III	3
NDT 160	Acoustic Emission Testing Level I	3
NDT 165	Machine Lubrication and Analysis I	3
NDT 166	Machine Lubrication and Analysis II	3
NDT 167	Machine Lubrication and Analysis III	3
LEN 100	Lean for Operations	3
NDT 170	Electrical Motor Testing	2
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
ENG 101	Composition I	3
PHS 110	Physical Science	5
MTH 112	College Algebra	3
PSY 101	General Psychology	3
	OR	
SOC 101	Principles of Sociology	
SPH 111	Interpersonal Communication	3
	OR	
SPH 101	Public Speaking	
<b>Total</b>		<b>65</b>

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$8,583.00
Fees	\$2,015.00
Lab Fees	\$1,039.00
<b>TOTAL</b>	<b>\$11,637.00</b>

\*Cost does not include online fees, books or tools.  
[Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	13
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$82,070	\$39.46

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.



# Predictive NDT Technologies, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AVC 102	Precision Instruments	1
AVC 110	Safety/OSHA 10	1
NDT 101	Magnetic Particle Testing Method for NDT	3
NDT 150	Vibration Analysis Level I	3
NDT 151	Vibration Analysis Level II	3
NDT 152	Vibration Analysis Level III	3
NDT 155	Thermography Level I	3
NDT 156	Thermography Level II	3
NDT 157	Thermography Level III	3
NDT 160	Acoustic Emission Testing Level I	3
NDT 165	Machine Lubrication and Analysis I	3
NDT 166	Machine Lubrication and Analysis II	3
NDT 167	Machine Lubrication and Analysis III	3
LEN 100	Lean for Operations	3
NDT 170	Electrical Motor Testing	2
PVD 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 101	Computer Essentials	2
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>47</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watac.edu/checklist](http://watac.edu/checklist) for program admission requirements.

### Start Dates

August 2015 August 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watac.edu/campuses](http://watac.edu/campuses)

### Costs\*

Tuition	\$7,053.00
Fees	\$1,457.00
Lab Fees	\$923.00
<b>TOTAL</b>	<b>\$9,433.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	13
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$82,070	\$39.46





# Robotics, AAS

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
IND 106	Direct & Alternating Current	4
IND 109	Basic Industrial Programmable Logic Controls	3
IND 112	Fundamentals of Motor Control	2
IND 131	Industrial Programmable Logic Controls	3
IND 132	Industrial Process Control	3
PDV 105	Global Professional Standards	2
ROB 100	Introduction to Robotics	3
ROB 101	Manufacturing Control & Work Cell Interfacing	2
ROB 102	Work Cell Design Laboratory	1
ROB 103	Applied Robotics Lab I	3
ROB 104	Robotics Simulation	2
ROB 106	Robotics Controller Maintenance	3
ROB 110	Applied Robotics Lab II	3
ROB 111	Advanced Robot Controller Programming	2
ROB 125	Advanced Industrial Workcell Programming	3
<b>Required General Education Courses</b>		
ENG 101	Composition I	3
MTH 112	College Algebra	3
MTH 113	Trigonometry	3
ECO 105	Principles of Macroeconomics	3
SPH 101	Public Speaking	3
PHS 120	General Physics I	5
<b>Total</b>		<b>60</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$7,203.00
Fees	\$1,860.00
Lab Fees	\$1,549.00
<b>TOTAL</b>	<b>\$10,612.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	1
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
NA	NA



# Robotics, TC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AVC 110	Safety/OSHA 10	1
ORI 005	Manufacturing Orientation	0
IND 106	Direct & Alternating Current	4
IND 109	Basic Industrial Programmable Logic Controls	3
IND 112	Fundamentals of Motor Control	2
IND 131	Industrial Programmable Logic Controls	3
IND 132	Industrial Instrumentation	3
PDV 105	Global Professional Standards	2
ROB 100	Introduction to Robotics	3
ROB 101	Manufacturing Control & Work Cell Interfacing	2
ROB 102	Work Cell Design Laboratory	1
ROB 103	Applied Robotics Lab I	3
ROB 104	Robotics Simulation	2
ROB 106	Robotics Controller Maintenance	3
ROB 110	Applied Robotics Lab II	3
ROB 111	Advanced Robot Controller Programming	2
ROB 125	Advanced Industrial Workcell Programming	3
<b>Required General Education Courses</b>		
MTH 112	College Algebra	3
MTH 113	Trigonometry	3
PHS 120	General Physics I	5
<b>Total</b>		<b>51</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [wac.edu/checklist](http://wac.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [wac.edu/campuses](http://wac.edu/campuses)

### Costs\*

Tuition	\$6,600.00
Fees	\$1,581.00
Lab Fees	\$1,549.00
<b>TOTAL</b>	<b>\$9,730.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	1
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
NA	NA



# Shielded Metal Arc Welding, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
CWG 110	Welding Applications	4
CWG 115	SMAW	3
CWG 116	SMAW II	4
<b>Required General Education Courses</b>		
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>15</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$1,613.00
Fees	\$465.00
Lab Fees	\$1,173.00
<b>TOTAL</b>	<b>\$3,251.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



## Surgical Technology, AAS

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
SGT 101	Introduction to Surgical Technology	4
SGT 107	Pharmacology for Surgical Technology	3
SGT 115	Surgical Procedures I	4
SGT 119	Surgical Technology – Clinical Experience I	4
SGT 120	Principles & Practices in Surgical Technology	5
SGT 125	Surgical Procedures II	5
SGT 129	Surgical Technology – Clinical Experience II	5
SGT 130	Surgical Technology – Clinical Experience III	4
SGT 140	Principles & Practices in Surgical Technology Lab	3
SGT 145	Surgical Technologist Exam Review	1
<b>Required General Education Courses</b>		
ALH 101	Medical Terminology	3
BIO 150	Human Anatomy & Physiology	5
CPR 001	CPR for Health Care Providers	1
BIO 160	Microbiology	5
PSY 101	General Psychology	3
SOC 101	Principles of Sociology	3
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
OR		
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>67</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015\* October 2015  
January 2016 March 2016  
June 2015

\*Entry point of SGT courses

### Location

Southside Center  
4501 E. 47th Street South | Wichita, KS 67210  
316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$7,643.00
Fees	\$2,007.00
Lab Fees	\$2,179.00
<b>TOTAL</b>	<b>\$11,899.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	29
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$41,800	\$20.09



## Surgical Technology, TC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
SGT 101	Introduction to Surgical Technology	4
SGT 107	Pharmacology for Surgical Technology	3
SGT 115	Surgical Procedures I	4
SGT 119	Surgical Technology – Clinical Experience I	4
SGT 120	Principles & Practices in Surgical Technology	5
SGT 125	Surgical Procedures II	5
SGT 129	Surgical Technology – Clinical Experience II	5
SGT 130	Surgical Technology – Clinical Experience III	4
SGT 140	Principles & Practices in Surgical Technology Lab	3
SGT 145	Surgical Technologist Exam Review	1
<b>Required General Education Courses</b>		
ALH 101	Medical Terminology	3
BIO 150	Human Anatomy & Physiology	5
CPR 001	CPR for Health Care Providers	1
BIO 160	Microbiology	5
<b>Total</b>		<b>52</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

### Start Dates

August 2015\* October 2015  
 June 2015  
 January 2016 March 2015  
 \*Entry point of SGT courses

### Location

Southside Center  
 4501 E. 47th Street South | Wichita, KS 67210  
 316.677.1500 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$6,638.00
Fees	\$1,612.00
Lab Fees	\$2,179.00
<b>TOTAL</b>	<b>\$10,429.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study	29
Placement rate	100%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$41,800	\$20.09



# Thermographer, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
	AVC 102 Precision Instruments	1
	AVC 110 Safety/OSHA 10	1
	NDT 112 Ultrasonic Inspection I	3
	NDT 155 Thermography Level I	3
	NDT 156 Thermography Level II	3
	NDT 157 Thermography Level III	3
<b>Total</b>		<b>14</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [wata.edu/checklist](http://wata.edu/checklist) for program admission requirements.

### Start Dates

August 2015 August 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [wata.edu/campuses](http://wata.edu/campuses)

### Costs\*

Tuition	\$2,328.00
Fees	\$434.00
Lab Fees	\$364.00
<b>TOTAL</b>	<b>\$3,126.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.



# Ultrasonic Technician, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
	NDT 112 Ultrasonic Testing Method Level I	3
	NDT 113 Ultrasonic Testing Method Level II	3
	NDT 115 Introduction to Ultrasonic C-Scan & Phased Array	3
	NDT 120 Ultrasonic Phased Array II	2
	NDT 125 Phased Array Time of Flight Diffraction (TOFD)	2
<b>Total</b>		<b>13</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.

**Start Dates**  
August 2015 August 2016

**Location**  
National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

<b>Costs*</b>	
Tuition	\$2,275.00
Fees	\$403.00
Lab Fees	\$430.00
<b>TOTAL</b>	<b>\$3,108.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

**Wages**

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$82,070	\$39.46



# Vibration Analyst, COC

## Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
AVC 102	Precision Instruments	1
AVC 110	Safety/OSHA 10	1
NDT 150	Vibration Analysis Level I	3
NDT 151	Vibration Analysis Level II	3
NDT 152	Vibration Analysis Level III	3
<b>Required General Education Courses</b>		
MTH 020	Math Fundamentals	3
<b>Total</b>		<b>14</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watac.edu/checklist](http://watac.edu/checklist) for program admission requirements.

### Start Dates

August 2015 August 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watac.edu/campuses](http://watac.edu/campuses)

### Costs\*

Tuition	\$2,004.00
Fees	\$434.00
Lab Fees	\$305.00
<b>TOTAL</b>	<b>\$2,743.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.





## Welding, AAS

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
AVC 112	Blueprint Reading	2
CWG 103	Print Reading II/Welding	1
CWG 110	Welding Applications	4
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 130	Robotic Welding	3
CWG 141	Oxy Acetylene Welding & Cutting	2
CWG 145	Fabrication & Design 2	2
CWG 149	Materials & Testing	2
PDV 105	Global Professional Standards	2
<b>Required Electives (minimum of 8 credits required)</b>		
4 elective hours must come from CWG 242, 243 or 250.		
CWG 242	SMAW D1.1 Qualification	4
CWG 243	GMAW D.1.1 Qualification	4
CWG 250	API 1104 Qualification	4
MCD 101	Introduction to CAD I	3
MCD 102	Introduction to CAD II	2
MMG 142	Manual Lathes	6
MMG 126	Machining 2	3
DIS 150	Directed Individual Studies	4
<b>Required General Education Courses</b>		
CED 115	Computer Applications	3
ENG 101	Composition I	3
MTH 101	Intermediate Algebra	3
SPH 101	Public Speaking	3
OR		
SPH 111	Interpersonal Communication	
PSY 101	General Psychology	3
OR		
SOC 101	Principles of Sociology	
<b>Total</b>		<b>63</b>

### Start Dates

August 2015 October 2015  
 January 2016 March 2016  
 June 2016

### Location

National Center for Aviation Training  
 4004 N. Webb Road | Wichita, KS 67226  
 316.677.9400 Get maps at [watc.edu/campuses](http://watc.edu/campuses)

### Costs\*

Tuition	\$5,823.00
Fees	\$1,860.00
Lab Fees	\$6,450.00
<b>TOTAL</b>	<b>\$14,133.00</b>

\*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. Total calculated based on the lowest cost combination of elective credits required.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2014 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 19  
 Placement rate 95%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$41,130	\$19.27

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [watc.edu/checklist](http://watc.edu/checklist) for program admission requirements.



## Welding, TC

### Curriculum

CRN	Course Name	Credits
<b>Required Technical Courses</b>		
ORI 005	Manufacturing Orientation	0
AVC 110	Safety/OSHA 10	1
AVC 112	Blueprint Reading	2
CWG 103	Print Reading II/Welding	1
CWG 110	Welding Applications	4
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 130	Robotic Welding	3
CWG 141	Oxy Acetylene Welding & Cutting	2
CWG 145	Fabrication & Design 2	2
CWG 149	Materials & Testing	2
PDV 105	Global Professional Standards	2
<b>Required General Education Courses</b>		
CED 101	Computer Essentials	2
MTH 020	Math Fundamentals	3
SPH 101	Public Speaking	3
	OR	
SPH 111	Interpersonal Communication	
<b>Total</b>		<b>48</b>

\*Some courses may have a prerequisite in addition to the classes listed above. Please [contact an Academic Coach](#) for details. Visit [wata.edu/checklist](http://wata.edu/checklist) for program admission requirements.

### Start Dates

August 2015 October 2015  
January 2016 March 2016  
June 2016

### Location

National Center for Aviation Training  
4004 N. Webb Road | Wichita, KS 67226  
316.677.9400 Get maps at [wata.edu/campuses](http://wata.edu/campuses)

### Costs\*

Tuition	\$4,818.00
Fees	\$1,395.00
Lab Fees	\$5,726.00
<b>TOTAL</b>	<b>\$11,939.00</b>

\*Cost does not include online fees, books or tools. [Financial Assistance](#) may be available to those who qualify.

### Success Rate

This chart contains the results of the one-year follow-up study conducted of 2013 Wichita Area Technical College postsecondary program completers. WATC defines success as those graduates who have found placement in a job, the military or are enrolled in advanced study.

Eligible graduates contacted in follow-up study 19  
Placement rate 95%

### Wages

BLS Data Source: Bureau of Labor Statistics (2012); Mean Wages of selected occupation in Wichita, KS. WATC does not guarantee the below wages.

Annually	Hourly
\$41,130	\$19.27

# A

## **ACC 104 Computerized Accounting** **3 Cr Hrs**

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.

**Co/Prerequisite:** ACC 105, CED 115

## **ACC 105 Fundamentals of Accounting** **3 Cr Hrs**

This course is 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. Recommended for students with no previous accounting background.

## **ACC 130 Managerial Accounting** **3 Cr Hrs**

This course studies management tools for business decision making, including 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, executing and controlling a business enterprise.

**Co/Prerequisite:** Minimum grade of “C” or better in ACC 170

## **ACC 152 Payroll Accounting** **3 Cr Hrs**

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.

**Co/Prerequisite:** ACC 105

## **ACC 160 Principles of Accounting I** **3 Cr Hrs**

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.

**Co/Prerequisite:** Minimum grade of “C” or better in ACC 105 or consent from the dean

**ACC 170 Principles of Accounting II** **3 Cr Hrs**

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.

**Co/Prerequisite:** Minimum grade of "C" or better in ACC 160

**ACP 100 Introduction to Coatings & Paint Technology** **3 Cr Hrs**

This course discusses 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.

**Co/Prerequisite:** AVC 100, 101 or concurrent

**ACP 101 Surface Preparation & Coatings** **4 Cr Hrs**

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.

**Co/Prerequisite:** ACP 100, MTH 020

**ACP 102 Performance & Durability of Coatings** **3 Cr Hrs**

This course discusses 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.

**Co/Prerequisite:** ACP 100, 101

**ACP 103 Color Technology** **3 Cr Hrs**

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.

**Co/Prerequisite:** ACP 100, 101

**ACP 104 Specialized Coating Processes** **3 Cr Hrs**

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.

**Co/Prerequisite:** ACP 100, 101

**ACP 105 Specialized Detailing** **3 Cr Hrs**

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.

**Co/Prerequisite:** ACP 100, 101, 103

**ACP 106 Aerospace Coatings & Materials** **3 Cr Hrs**

This course covers advanced technologies for coating materials and applications. Topics include: coating technologies that address aesthetics, durability, and environmental issues. ACP 100

**Co/Prerequisite:** ACP 100, 101, 102, 105

**ACP 107 Aerospace Program Management** **3 Cr Hrs**

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.

**Co/Prerequisite:** ACP 100, 101, 103, 104, 106

**ACP 110 Integrated Assembly Capstone Project** **4 Cr Hrs**

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.

**Co/Prerequisite:** ACP 100, 101, 102, 103, 104, 105, 106, 107

**ACP 111 Technical Co-Operative Project** **4 Cr Hrs**

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.

**Co/Prerequisite:** ACP 100, 101, 102, 103, 104, 105, 106, 107

**ACP 115 Introduction to Airbrush** **3 Cr Hrs**

This course is designed as an introduction to airbrushing. 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 of 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.

**ACP 120 Intermediate Airbrush I****3 Cr Hrs**

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

**Co/Prerequisite:** ACP 115

**ACP 125 Intermediate Airbrush II****3 Cr Hrs**

This course deals with the continued progression of advance 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 matter in this course.

**Co/Prerequisite:** ACP 120

**ACP 160 Advanced Airbrush****3 Cr Hrs**

This course deals with refining advance 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.

**Co/Prerequisite:** ACP 125

**ACR 101 Principles & Practices of Refrigeration****3 Cr Hrs**

Introduces the use of refrigeration tools, materials and procedures needed to install, repair and service refrigeration systems. Topics include refrigeration tools; piping practices; service valves; leak testing; refrigerant recovery, recycling and reclamation; evacuation; charging; and safety.

**Co/Prerequisite:** ACR 112

**ACR 107 Air Conditioning Systems****3 Cr Hrs**

Introduces fundamental theory and techniques to identify major components and functions of air conditioning systems. Instruction is given on types of air conditioning systems and use of instrumentation. Topics include: types of ACR systems, heat load calculations, properties of air, psychometrics, duct design, air filtrations, and safety principles.

**Co/Prerequisite:** ACR 101, 115

**ACR 111 Heat Pumps & Related Systems****4 Cr Hrs**

Provides instruction on the principles, application and operation of a residential heat pump system. Topics include installation procedures, servicing procedures, electrical components, geothermal ground source energy supplies, dual fuel, troubleshooting, valves and safety.

**Co/Prerequisite:** ACR 101, 115

**ACR 112 HVAC Fundamentals****4 Cr Hrs**

Introduce basic concepts and theories of refrigeration. Topics include: the laws of thermodynamics, pressure and temperature relationships, heat transfer, refrigerant identification, the refrigeration cycle, and safety.

**ACR 113 Electrical Fundamentals****3 Cr Hrs**

Provides instruction in identifying, installing, and testing commonly used electrical components in an air conditioning system. Topics include: pressure switches, overload devices, transformers, magnetic starters, other commonly used controls, diagnostic techniques, installation procedures, and safety.

**ACR 114 Heating System Fundamentals****3 Cr Hrs**

Introduces principles of combustion and service requirements for gas heating systems. Topics include service procedures, electrical controls, piping, gas valves, venting, code requirements, principles of combustion and safety.

**Co/Prerequisite:** ACR 101, 112, 113, 115

**ACR 115 Electricity & Electronics for the HVACR Service Technician** **5 Cr Hrs**

Provides instruction in identifying, installing, and testing commonly used electrical components in an air conditioning system. Topics include: pressure switches, overload devices, transformers, magnetic starters, other commonly used controls, diagnostic techniques, installation procedures, and safety.

**Co/Prerequisite:** ACR113

**ACR 116 Workplace Skills****1 Cr Hr**

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.

**ACR 117 Intro to Mechanical Refrigeration****4 Cr Hrs**

The students will apply knowledge previously learned in HVAC Fundamentals to Ice Machines, refrigerators and commercial coolers. Students will learn the function of the specialized electrical circuits and how to service and repair these systems.

**Co/Prerequisite:** ACR 112

**ACR 118 Electrical Fundamentals II****1 Cr Hr**

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. **Co/Prerequisite:** ACR 113

**ACR 119 Advanced Electrical Theory for HVAC****2 Cr Hrs**

Advanced Electrical Theory for HVAC is a continuation of Electrical Fundamentals 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.

**Co/Prerequisite:** ACR 118



**ACR 120 Building Control Systems I** **3 Cr Hrs**

Provides instruction on the installation and service of residential air conditioning systems, as well as basic building controls. Topics include installation procedures, service, split systems, add-on systems, packaged systems and safety.

**Co/Prerequisite:** ACR 101, 107, 115

**ACR 121 Heating System Fundamentals** **3 Cr Hrs**

Introduces principles of combustion and service requirements for gas heating systems. Topics include service procedures, electrical controls, piping, gas valves, venting, code requirements, principles of combustion and safety.

**Co/Prerequisite:** ACR 119

**ACR 122 Heating System Fundamentals II** **2 Cr Hrs**

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. Student will gain a thorough understanding and be able to apply skills in sizing vents and pipe upon completion of this course.

**Co/Prerequisite:** ACR 117, 121

**ACR 123 Heat Loads and Duct Sizing** **4 Cr Hrs**

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. **Co/Prerequisite:** ACR 121

**ACR 124 Advanced Heating Systems** **3 Cr Hrs**

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.

**Co/Prerequisite:** ACR 123

**ACR 126 EPA 608** **1 Cr Hr**

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).

**ACR 127 Heat Pumps** **3 Cr Hrs**

Provides instruction on the principles, application and operation of a residential heat pump system. Topics include installation procedures, servicing procedures, electrical components, geothermal ground source energy supplies, dual fuel, troubleshooting, valves and safety.

**Co/Prerequisite:** ACR 121, 117

**ACR 128 Commercial HVAC****4 Cr Hrs**

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.

**Co/Prerequisite:** ACR 127

**ACR 129 Commercial HVAC Lab****4 Cr Hrs**

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

**Co/Prerequisite:** ACR 128

**ACR 130 HVAC Design****4 Cr Hrs**

This course discusses heat energy, conditions of human comfort, psychometric chart and plotting various air conditions. Calculations of heat transfer into and out of a residential structure will be instructed using terms, concepts, measurements and calculations of moving air. This course is designed to develop and exercise the student's ability to perform heat loss and gain calculations.

**Co/Prerequisite:** ACR 101, 115, 120

**ACR 135 Internship in HVACR****5 Cr Hrs**

Students participate in an industry-related assignment associated with the heating, ventilation, air conditioning and refrigeration systems. All work assignments must be approved by a faculty advisor.

**Co/Prerequisite:** ACR 111, 130

**ACR 140 Sheet Metal****3 Cr Hrs**

Upon successful completion of this course, the student should be able to identify the components, equipment, and operation for sheet metal layout and fabrication. The patterns will be fabricated and joined into a line of fittings. This gives the most complete test of pattern accuracy and also provides the experience needed by a competent layout person. The student will be required to wear safety glasses.

**AER 106 Aerospace Manufacturing Tooling Orientation****1 Cr Hr**

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.

**Co/Prerequisite:** MTH 020; Aerospace Manufacturing Core Certification courses AVC 105, 107, 110, 112, 120, 125, 135, 145, 102, 103, 104; PDV 105

**AER 111 Tap and Die****1 Cr Hrs**

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.

**Co/Prerequisite:** MTH 020; AER 106; Aerospace Manufacturing Core Certification courses AVC 102, 103, 104, 105, 107, 110, 112, 120, 125, 135, 145; PDV 105

**AER 115 Aerostructures Assembly****6 Cr Hrs**

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.

**Co/Prerequisite:** MTH020; AER 140; Aerospace Manufacturing Core Certification courses AVC 102, 104, 105, 107, 110, 112, 120, 125, 140, 145

**AER 116 Hand and Power Tools for Aerospace Tooling****1 Cr Hr**

This course provides technical knowledge of hand and power tools used in Aerospace manufacturing tooling. Topics include files, reamers, lapping tools, hammers, punches, chisels, pliers, scribes, drill blocks, die grinders, disc grinders and magnetic drills.

**Co/Prerequisite:** MTH 020; AER 140, 111; Aerospace Manufacturing Core Certification courses AVC 102, 103, 104, 105, 107, 110, 112, 120, 125, 135, 145

**AER 126 Tooling Capstone****4 Cr Hrs**

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. Online interactive content supplements the hands-on experience in a state of art aerospace tooling laboratory.

**Co/Prerequisite:** AER 106, 111, 116 150; AVC 102, 103, 104, 105, 107, 110, 112, 120, 125, 135, 145; MTH 020

**AER 135 Quality Assurance Orientation****1 Cr Hr**

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.

**Co/Prerequisite:** AVC 102, 104, 105, 107, 108, 110, 112, 120, 125, 135, 140

**AER 140 Assembly Mechanic Orientation** **1 Cr Hr**

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 is presented using interactive online content.

**AER 150 Assembly Overview I** **3 Cr Hrs**

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.

**Co/Prerequisite:** AVC 102, 103, 104, 105, 107, 108, 110, 112, 120, 125

**AER 155 Aerospace Plumbing** **2 Cr Hrs**

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.

**Co/Prerequisite:** AVC 102, 103, 104, 105, 107, 108, 110, 112, 120, 125, 130, 135

**AER 165 Electrical Assembly Mechanic Orientation** **1 Cr Hr**

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.

**Co/Prerequisite:** AVC 102, 104, 105, 107, 108, 110, 112, 125, 135

**AER 166 Electrical Hand Tools** **1 Cr Hr**

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

**Co/Prerequisite:** AER 165; AVC 102, 104, 105, 107, 108, 110, 112, 120, 125, 135

**AER 167 Basic Drilling & Riveting/Ground Stud Installation** **2 Cr Hrs**

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.

**Co/Prerequisite:** AER 165; AVC 102, 204, 105, 107, 108, 110, 112, 120, 125, 135, 140

**AER 168 Wire Installation Drawings** **1 Cr Hr**

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.

**Co/Prerequisite:** AER 165; AVC 102, 204, 105, 107, 108, 110, 112, 120, 125, 135

**AER 169 Crimping & Cables** **2 Cr Hrs**

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.

**Co/Prerequisite:** AER165, 175; AVC 102, 204, 105, 107, 108, 110, 112, 120, 125, 135, 140

**AER 170 Fiber Optics for Aerospace** **1 Cr Hr**

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.

**Co/Prerequisite:** AER165; AVC 102, 204, 105, 107, 108, 110, 112, 120, 125, 135

**AER 175 Wire Bundle Basics** **1 Cr Hr**

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.

**Co/Prerequisite:** AER 165, 168, 169; AVC 102, 204, 105, 107, 108, 110, 112, 120, 125, 135

**AER 180 Soldering** **1 Cr Hr**

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.

**Co/Prerequisite:** AER 165, 166; AVC 102, 204, 105, 107, 108, 110, 112, 120, 125, 135

**AER 185 Wire Bundle Installation** **2 Cr Hrs**

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

**Co/Prerequisite:** AER165 , 166, 168, 169, 175; AVC 102, 204, 105, 107, 108, 110, 112, 120, 125, 135, 140

**ALH 101 Medical Terminology** **3 Cr Hrs**

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.

**ALH 105 First Aid & CPR** **3 Cr Hrs**

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.

**ALH 110 Principles of Nutrition** **3 Cr Hrs**

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.

**ALH 115 Pharmacology** **3 Cr Hrs**

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.

**Co/Prerequisite:** Minimum grade of "C" or better in ALH 101 or BIO 150

**ALH 130 Emergency Preparedness for Health Professionals** **1 Cr Hr**

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.

**ALH 131 Diseases, Disorders & Diagnostic Procedures** **2 Cr Hrs**

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.

**ALH 135 Spanish for Healthcare Providers** **1 Cr Hr**

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.

**ALH 155 Pharmacology for Allied Health****3 Cr Hr**

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.

**ALH 175 Pathophysiology****4 Cr Hrs**

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.

**Co/Prerequisite:** BIO 150, CHM 110

**AMT 105 Technical Mathematics****2 Cr Hrs**

This course is designed to provide the technical math principles required for the Airframe and/or Powerplant mechanic. Academic standard for passing this class is a minimum of 78 percent for the written and Lab project exams.

**AMT 107 Aircraft Drawings****1 Cr Hr**

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 class is a minimum of 78% for the written and Lab project exams.

**AMT 108 Aircraft Coverings****2 Cr Hrs**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft coverings. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #4 and #5. Academic standard for passing this class is a minimum of 78% for the written and Lab project exams.

**AMT 109 Physics****2 Cr Hrs**

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 class is a minimum of 78 percent for the written and Lab project exams.

**AMT 111 Materials & Processes****4 Cr Hrs**

This course is designed to develop correct and safe usage of aircraft hardware, heat treating processes, non-destructive inspection, and precision measurements with specific emphasis on Federal Aviation Administration Regulations that pertain to the Airframe and Powerplant mechanic. Academic standard for passing this class is a minimum of 78% for the written and Lab project exams.

**AMT 112 Assembly & Rigging** **4 Cr Hrs**

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 class is a minimum of 78% for the written and Lab project exams.

**Co/Prerequisite:** AMT 108, 153, 159, 167, 177, 179, 183

**AMT 113 Basic Electricity** **4 Cr Hrs**

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 class is a minimum of 78% percent for the written and Lab project exams.

**AMT 115 Weight & Balance** **2 Cr Hrs**

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 class is a minimum of 78 percent for the written and Lab project exams.

**AMT 116 Aircraft Instrument Systems** **1 Cr Hr**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft instrument systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #36 and #37. Academic standard for passing this class is a minimum of 78% for the written and Lab project exams.

**AMT 117 Mechanics Privileges & Limitations** **1 Cr Hr**

This course is designed to develop basic theory and knowledge of Mechanic Privileges and Limitations with specific emphasis on Federal Aviation Administration Regulations that pertain to the Airframe and/or Powerplant rating. Academic standard for passing this class is a minimum of 78 percent for the written and Lab project exams.

**AMT 119 Maintenance Publications, Forms & Records** **2 Cr Hrs**

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 class is a minimum of 78 percent for the written and Lab project exams.

**AMT 120 Airframe Inspection** **3 Cr Hrs**

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 class is a minimum of 78% for the written and Lab project exams.

**AMT 123 Cleaning & Corrosion Control** **1 Cr Hr**

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 class is a minimum of 78 percent for the written and Lab project exams.

**AMT 125 Fluid Lines & Fittings** **1 Cr Hr**

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 class is a minimum of 78 percent for the written and Lab project exams.

**AMT 127 Ground Operations & Service** **2 Cr Hrs**

This course is designed to develop safe skills and technical knowledge in Ground Operation and Servicing procedures with special emphasis on Federal Aviation Administration Regulations that pertain to the Airframe and Powerplant mechanic. Academic standard for passing this class is a minimum of 78% for the written and Lab project exams.

**AMT 131 General Review & Test** **0 Cr Hr**

Upon completion of the General curriculum this course is designed to prepare the student for the FAA Written, Oral and Practical exams.

**Co/Prerequisite:** AMT 105, 107, 109, 111, 113, 115, 117, 119, 123, 125, 127

**AMT 136 Propellers** **4 Cr Hrs**

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 class is a minimum of 78 % (percent) for the written and Lab Project exams.

**Prerequisite:** AMT 200, 204, 206, 227

**AMT 151 Aircraft Electrical Systems** **6 Cr Hrs**

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 class is a minimum of 78% for the written and Lab project exams.

**Co/Prerequisite:** Must have completed the General section or meet the criteria established by FAR 147.31

**AMT 153 Hydraulic & Pneumatic Power Systems** **2 Cr Hrs**

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 class is a minimum of 78% for the written and Lab project exams

**AMT 155 Aircraft Landing Gear Systems** **4 Cr Hrs**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft landing gear systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subject #29. Academic standard for passing this class is a minimum of 78% for the written and Lab project exams.

**Co/Prerequisite:** AMT 112

**AMT 159 Aircraft Fuel Systems** **2 Cr Hrs**

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 class is a minimum of 78% for the written and Lab project exams.

**AMT 161 Fire Protection Systems** **1 Cr Hr**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to fire protection systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #54 and #55. Academic standard for passing this class is a minimum of 78% for the written and Lab project exams.

**AMT 163 Ice & Rain Control Systems** **1 Cr Hr**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to ice and rain control systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subject #53. Academic standard for passing this class is a minimum of 78% for the written and Lab project exams.

**AMT 165 Cabin Atmosphere Control Systems** **2 Cr Hrs**

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 class is a minimum of 78% for the written and Lab project exams.

**AMT 167 Aircraft Welding** **2 Cr Hrs**

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 class is a minimum of 78% for the written and Lab project exams.

**AMT 169 Communication & Navigation Systems** **2 Cr Hrs**

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 #38, #39, and #40. Academic standard for passing this class is a minimum of 78% for the written and Lab project.

**AMT 173 Position & Warning Systems** **1 Cr Hr**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to airframe position and warning systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Airframe mechanic. Academic standard for passing this class is a minimum of 78% for the written and Lab project exams.

**AMT 177 Wood Structures** **1 Cr Hr**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to airframe wood structures. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Airframe mechanic. Academic standard for passing this class is a minimum of 78% for the written and Lab project exams.

**AMT 179 Aircraft Sheetmetal & Non-Metallic Structures** **7 Cr Hrs**

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 and 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 class is a minimum of 78% for the written and Lab project exams.

**AMT 183 Aircraft Finishes** **2 Cr Hrs**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform application and maintenance procedures relevant to aircraft finishes. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Airframe Subjects #6, #7, #8, and #9. Academic standard for passing this class is a minimum of 78% for the written and Lab project exams.

**AMT 186 Airframe Review & Test****0 Cr Hrs**

Upon completion of the Airframe curriculum this course is designed to prepare the student for the FAA Written, Oral and Practical exams.

Prerequisite: AMT 116, 120, 151, 155, 161, 163, 165, 169, 173

**AMT 200 Reciprocating Engines****9 Cr Hrs**

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 class is a minimum of 78 % (percent) for the written and Lab Project exams.

**AMT 202 Engine Inspection****2 Cr Hrs**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft engine inspection. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Aircraft Powerplant Mechanic rating. Academic standard for passing this class is a minimum of 78 percent for the written and Lab project exams.

**AMT 203 Powerplant Ignition Systems****3 Cr Hrs**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft engine ignition and starting 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 class is a minimum of 78 percent for the written and Lab project exams.

**AMT 204 Engine Fuel Systems****1 Cr Hr**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft fuels and fuel 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 class is a minimum of 78 percent for the written and Lab project exams.

**AMT 206 Auxiliary Power Units****1 Cr Hr**

This course is designed to develop correct safety practices, comprehensive knowledge and technical skills required to perform maintenance procedures relevant to auxiliary power units. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to Powerplant subject #41. Academic standard for passing this class is a minimum of 78% for the lab projects and written exams.

**AMT 207 Fuel Metering Systems** **4 Cr Hrs**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft 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 class is a minimum of 78 percent for the written and Lab project exams.

**AMT 208 Engine Electrical Systems** **2 Cr Hrs**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft engine 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 class is a minimum of 78 percent for the written and lab project exams.

**AMT 211 Powerplant Cooling Systems** **1 Cr Hr**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to Powerplant cooling 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 class is a minimum of 78% for the written and Lab project exams.

**AMT 213 Powerplant Lubrication Systems** **3 Cr Hrs**

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 class is a minimum of 78% for the written and Lab project exams.

**AMT 217 Induction Systems** **1 Cr Hr**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to engine Induction & Airflow 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 class is a minimum of 78% for the written and Lab project exams.

**AMT 219 Powerplant Exhaust Systems** **2 Cr Hrs**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft engine Exhaust and Reverser systems. Academic standard for passing this class is a minimum of 78 percent for the written and Lab project exams.

**AMT 223 Powerplant Fire Protection Systems** **1 Cr Hr**

This course is designed to develop technical knowledge and skills required to operate and service aircraft engine fire protection systems with specific emphasis on the Federal Aviation Administration Regulations that pertain to the Powerplant mechanic. Academic standard for passing this class is a minimum of 78 percent for the written and lab project exams.

**AMT 225 Powerplant Instrument Systems** **1 Cr Hr**

This course is designed to develop correct safety practices, comprehensive knowledge, and technical skills required to perform maintenance procedures relevant to aircraft engine instrument systems. The curriculum is designed to meet specific Federal Aviation Administration Regulations that pertain to the Aircraft Powerplant Mechanic rating.

**AMT 227 Turbine Engines** **8 Cr Hrs**

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 78 % (percent) for the written and Lab Project exams.

**AMT 231 Powerplant Test & Review** **0 Cr Hrs**

Upon completion of the Power plant curriculum this course is designed to prepare the student for the FAA Written, Oral and Practical exams.

**Co/Prerequisite:** AMT 202, 203, 207, 208, 211, 217, 219, 223, 225

**AMT 250 Accelerated Certification- General/Air Frame** **3 Cr Hrs**

This review course assists the student in preparation for FAA testing for the Mechanic's Airframe 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, and Airframe Inspection.

**Co/Prerequisite:** Need to have received an 8610-2 Airman Certificate Authorization form from the FAA prior to attending class. 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. Students are expected to have a Microsoft device with an 8.1 operating system. Students must meet the experience requirements of FAR 65.71 Eligibility Requirements and 65.77 Experience Requirements.

**AMT 252 Accelerated Certification – General/ Airframe/ Powerplant 5 Cr Hrs**

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.

**Co/Prerequisite:** Need to have received an 8610-2 Airman Certificate Authorization form from the FAA prior to attending class. 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. Students are expected to have a Microsoft device with an 8.1 operating system. Students must meet the experience requirements of FAR 65.71 Eligibility Requirements and 65.77 Experience Requirements.

**ART 100 Art Appreciation 3 Cr Hrs**

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.

**AVC 102 Precision Instruments 1 Cr Hr**

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.

**Co/Prerequisite:** MTH 020

**AVC 103 Geometric Dimensioning & Tolerancing 1 Cr Hr**

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 an interactive on line environment.

**AVC 104 Quality Control Concepts** **1 Cr Hr**

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.

**AVC 105 Aircraft Familiarization** **1 Cr Hr**

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.

**AVC 107 Fundamentals for Aerospace Manufacturing** **1 Cr Hr**

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 online environment.

**AVC 108 Aircraft Systems & Components** **4 Cr Hrs**

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.

**AVC 110 Safety/OSHA 10** **1 Cr Hr**

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.

**AVC 112 Blueprint Reading** **2 Cr Hrs**

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.

**AVC 120 Introduction to Sealing** **1 Cr Hr**

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.



**AVC 125 Bonding and Grounding** **1 Cr Hr**

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.

**AVC 135 Hand Tools** **1 Cr Hr**

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.

**AVC 140 Electrical Bonding and Grounding** **1 Cr Hr**

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.

**AVC 145 Power Island** **1 Cr Hr**

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.

**AVC 150 Human Factors** **1 Cr Hr**

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.

**AVC 155 Aircraft Manufacturing Advanced Fastening Practices** **1 Cr Hr**

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.

**AVC 160 Aircraft Control Surface Rigging** **1 Cr Hr**

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

**AVC 165 Technical Writing** **1 Cr Hr**

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 documents, and the importance of accuracy.

**AVC 170 Conflict Resolution****1 Cr Hr**

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.

**AVT 101 Basic Electricity & Electronics****3 Cr Hrs**

This course is designed to introduce the student to the fundamental concepts of electricity and electronics that involve direct current (dc), including series and parallel resistive circuits, network analysis, and magnetism. 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.

**Prerequisite:** AVT 100, 102; MTH 101

**AVT 102 Basic Electricity & Electronics Lab****3 Cr Hrs**

This course is designed as the laboratory component to the AVT 101 course and 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.

**Co/Prerequisite:** AVT 100, 101, 103; MTH 101

**AVT 103 Introduction to Avionics****3 Cr Hrs**

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.

**AVT 105 Avionics Systems & Troubleshooting****2 Cr Hrs**

This course is a study of aviation electronic equipment, with hands-on wiring and system testing. Emphasis will be placed on avionics system installation and the block diagrams of individual appliances. Complete design, wiring and installation of a common general aviation avionics suite is a requirement of the class. Upon completion of this course, the student will be able to understand the operation, testing and troubleshooting of general aviation avionics systems and wiring concepts. 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 help then student relate the theoretical to the practical. All theory oriented studies are performed under this class.

**Co/Prerequisite:** AVT 106

**AVT 106 Avionics Systems & Troubleshooting Lab** **3 Cr Hrs**

This course is an application of aviation electronic equipment, with hands-on wiring and system testing. Emphasis will be placed on avionics system installation and the block diagrams of individual appliances. Complete wiring of an Allied Signal Silver Crown avionics suite and a GPS unit is a requirement of the class. Upon completion of this course, the student will be able to understand the operation, testing and troubleshooting of general aviation avionics systems and wiring concepts. This course is the laboratory component of AVT105. 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 AVT 105 are performed in this class.

**Co/Prerequisite:** AVT 105

**AVT 107 Basic Communications Electronics** **3 Cr Hrs**

This course is designed to the fundamental concepts of electricity and electronics that involve alternating current (ac), capacitance, inductance, transformers, semi-conductor diodes, junction transistors, field effect transistors and operational amplifiers. Device characteristics as well as typical circuit applications will be studied.

**Co/Prerequisite:** AVT 100, 101, 102, 103, 115; MTH 101

**AVT 108 Wiring & Cannon Plug Lab** **2 Cr Hrs**

This course will provide the student instruction and practical lab exercises with the most common types of aircraft connectors and wiring systems utilized in today's aircraft. A part of the course provides the student the opportunity to terminate, populate connectors and aircraft wiring assemblies.

**AVT 110 Aircraft Electrical, Communication & Navigation Systems (Part 1)** **3 CrHrs**

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.

**Co/Prerequisite:** AVT 111, 108

**AVT 111 Aircraft Electrical, Communication & Navigation 3 CrHrs**

**Systems (Part 1) Lab**

This course is the laboratory component of AVT110. 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. Design, construct and install a wire harness for a small general aviation avionics and instrument panel; 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. All laboratory performance requirements in support of AVT110 are performed in this class.

**Co/Prerequisite:** AVT 110, 108

**AVT 112 Aircraft Electrical, Communication & Navigation 2 Cr Hrs**

**Systems (Part 2)**

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.

**Co/Prerequisite:** AVT 110, 111, 113

**AVT 113 Aircraft Electrical, Communication & Navigation 3 Cr Hrs**

**Systems (Part 2) Lab**

This course is the laboratory component of AVT112. The student construct and install a wire harness for a small general aviation avionics and instrument panel, construct a pitotstatic 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. All

**Co/Prerequisite:** AVT 110, 111, 112

**AVT 115 Basic Communications Electronics Lab 3 Cr Hrs**

This course is the laboratory component to the AVT 107 course and 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.

**Co/Prerequisite:** AVT 100,101, 102, 107; MTH 101

**AVT 122 Certification Preparation II for NCATT 4 Cr Hrs**

Helps student increase the knowledge and skills required to troubleshoot and repair practical electronics projects and prepares the student based upon these skills to be successful for the NCATT Certification testing.

**Co/Prerequisite:** AVT 135

**AVT 125 Digital Electronics Fundamentals** **2 Cr Hrs**

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.

**Co/Prerequisite:** AVT 126

**AVT 126 Digital Electronics Fundamentals Lab** **2 Cr Hrs**

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. During this lab portion the student will be introduced to test equipment used to diagnose digital electronic discrepancies.

**Co/Prerequisite:** AVT 125

**AVT 135 Advanced Analog & Digital Communications** **2 Cr Hrs**

This course introduces students to the ARINC429 data bus system used to control and communicate with modern avionics devices. Students will also be able to specialize their studies in their preferred area by selecting from theoretical studies in microprocessors, fiber optics, transducers, or bench repair.

**Co/Prerequisite:** AVT 106, 136

**AVT 136 Advanced Analog & Digital Communications Lab** **2 Cr Hrs**

This lab course is the complement to AVT 135 and gives the student practical experience with ARINC429 test equipment to troubleshoot modern avionics equipment in both a laboratory and aircraft environment. Students will also be able to specialize their studies in their preferred area by selecting from lab work in microprocessors, fiber optics, transducers, or bench repair.

**Co/Prerequisite:** AVT 135, 106, Students will all participate in the sections on ARINC-429. Students may choose any optional section to complete the requirements for this course.

# B

## **BAF 103 Finance** **3 Cr Hrs**

This course provides an introduction to financial markets, institutions and management in contemporary society. Emphasis is placed on developing an understanding of the financial markets in which funds are traded, the financial institutions participating in facilitating the trade of such funds and the financial principles and concepts behind sound financial management. Topics include financial systems of the United States, business financial management and financing other sectors of the economy.

**Co/Prerequisite:** ACC 105, ECC 105

## **BAF 105 Introduction to US Financial System** **3 Cr Hrs**

This course emphasizes the relevance of monetary instruments, intermediaries and the role of the central banks as they impact local, state, national and international economics. Topics include history and evolution of financial institutions; monetary instruments and flow; and central banking, operation and policies.

## **BAF 121 Introduction to Bank Management** **3 Cr Hrs**

Emphasizes the relevance of banks and the economy, bank regulations and policy, bank organizational structure, bank management, the financial institutions' environment, bank deregulation, and asset/liability management.

**Co/Prerequisite:** BAF 103, 105

## **BIO 100 Biology Review** **1 Cr Hr**

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 but has 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. CHM110 Chemistry is recommended but not required.

## **BIO 110 Principles of Biology** **5 Cr Hrs**

An introduction to the biological concepts included in the General Education Biology Core Competencies. This includes understanding the nature of science, levels of organization, bioenergetics, reproduction and inheritance and the mechanisms of change. Laboratory stresses the process of scientific investigation and observation of biological processes.

**BIO 120 Environmental Biology** **3 Cr Hrs**

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.

**BIO 130 Biology I** **5 Cr Hrs**

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.

**Co/Prerequisite:** BIO 110

**BIO 135 Biology II** **5 Cr Hrs**

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.

**Co/Prerequisite:** BIO 130

**BIO 150 Human Anatomy & Physiology** **5 Cr Hrs**

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.

**Co/Prerequisite:** BIO 110, 100

**BIO 151 Anatomy and Physiology Enhancement** **1Cr Hr**

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.

**Co/Prerequisite:** BIO150 or an equivalent 5 credit hour course

**BIO 160 Microbiology****5 Cr Hrs**

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.

**Co/Prerequisite:** BIO 100, 110

**BMT 101 Optimize Your Website – Beginning Search Engine****1 CrHr****Optimization (SEO)**

This purpose of this workshop is to provide an understanding of how search engine optimization techniques can be used to improve a website and increase its traffic. Emphasis will be on understanding how search engines work, the SEO process, tools and techniques on how you can optimize your website.

**BMT 105 Online Advertising – Beginning Google Ad Words****1CrHr**

This purpose of this workshop is to provide an understanding of how to plan and create a successful online advertising campaign using Google AdWords. Emphasis will be on understanding how the AdWords system works, how campaigns should be structured, and how keyword lists and ads are developed. We also introduce Google Analytics and conversion tracking and explain the billing cycle.

**Co/Prerequisite:** BMT 101

**BMT 110 Blogging for Your Business****1 CrHr**

This workshop will provide an understanding of how to plan and create a successful blogging campaign. Promoting your business by delivering marketing messages in the form of a blog can help attract and retain customers. Blogging can be part of an online marketing campaign, which is a critical skill for today's business owner and business student.

**BMT 115 Beginning Email Marketing****1 CrHr**

This workshop will provide an understanding of how to plan an email marketing campaign. We will examine best practices for sending email messages; discuss deliverability, tracking, list building and can-spam compliance issues.

**BMT 120 Social Media Madness****1 CrHr**

This workshop will provide an understanding of what Social Media is and how it can be used in marketing your business. We will examine ways to engage social media to promote a product, brand or identity.

**BUS 104 Introduction to Business****3 Cr Hrs**

Studies various types of business organizations and the relationships of business to government and management to labor. Management's perspective of production, marketing, personnel, finance and transportation is a constant consideration.



**BUS 106 Office Procedures** **3 Cr Hrs**

Prepares students to handle situations in an office setting. Students learn office management skills including communication, and organization skills.

**BUS 121 Business Communications** **3 Cr Hrs**

Business Communications is designed to cover the communication skills that are necessary in a high technology global business environment. These skills include competencies in written and oral communication; an awareness of international, legal, and ethical issues; the ability to work collaboratively on group projects; and proficiency in using microcomputers.

**BUS 125 Business Law** **3 Cr Hrs**

A basic introductory law course covering the legal and social environment within which business operates, including the structure, processes and procedures of the American legal system. A substantial portion of the course is devoted to contracts.

**BUS 130 Personal Finance** **3 Cr Hrs**

This course is designed for non-business majors as well as for business majors. The course is concerned with efficient management of money as a primary requirement for successful personal life. Aids individuals in establishing and maintaining credit, using a budget, safeguarding and investing savings and arranging personal insurance.

**BUS 140 Principles of Marketing** **3 Cr Hrs**

Production and marketing of goods and services are the essence of economic life in any society. All organizations perform these two basic functions to satisfy their commitments to society, their customers and their owners. Marketing examines the problems of transferring title and moving goods from producer to consumer, buying, selling, storing, transporting, standardizing, financing, risk-bearing and supplying market information. The free enterprise and the government's contribution, retailing and international marketing are discussed at length.

**BUS 145 Dreamweaver** **3 Cr Hrs**

This course is designed to introduce the fundamentals of web page authoring using Macromedia Dreamweaver version 8. Emphasis is on developing an understanding of how to plan, design, create, modify and publish a web site.

**BUS 160 Human Relations** **3 Cr Hrs**

This course is designed to help employees and supervisors gain human relations skills needed for success at their work site. The case method will be used to analyze situations in which actual job relations are presented.

**BUS 200 Principles of Management****3 Cr Hrs**

Explores the basic management functions of planning and controlling that pertain to the type of business for which student is preparing to work on a career basis. The basic management theories, functions and aspects of various types of business are studied.

**C****CAT 101 CATIA Part Design & Sketcher****4 Cr Hrs**

Core course of CATIA V5. Course covers the creation of solid parts without complex contours. Students will be introduced to the part environment of CATIA V5 and learn how to work between Sketcher and Part Design workbenches to create individual parts.

**CAT 102 CATIA Drafting****4 Cr Hrs**

This course covers the creation of engineering drawings. Students will be introduced to the drafting environment of CATIA V5 and learn how to create drawings from parts and products.

**Co/Prerequisite:** CAT101

**CAT 103 CATIA Functional Tolerancing & Annotation****4 Cr Hrs**

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.

**Co/Prerequisite:** CAT101

**CAT 105 CATIA Assembly Design****4 Cr Hrs**

This course covers the use of multiple parts to create an assembly. It also covers the various analytical and navigation tools that are available within an assembly. Students will be introduced to the product environment of CATIA V5 and learn how to work with multiple parts between the Assembly Design, DMU Space Analysis and DMU Navigator workbenches.

**Co/Prerequisite:** CAT101

**CAT 110 CATIA Wireframe & Surfaces****4 Cr Hrs**

Extension of the parts environment covers the use of wireframe and surface geometry to create complex contours. Cores concentrate on the tools available and how to integrate this geometry back into a solid part.

**Co/Prerequisite:** CAT101

**CAT 115 CATIA Prismatic Machining****4 Cr Hrs**

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 CATIA V5 and learn how to work between the process, part and product environments.

**Co/Prerequisite:** CAT101, 105

**CAT 120 CATIA ENOVIA LCA****3 Cr Hrs**

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.

**Co/Prerequisite:** CAT101, 105

**CAT 122 CATIA ENOVIA DMU****2 Cr Hrs**

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.

**CAT 124 CATIA Surface Machining****3 Cr Hrs**

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, Surface Machining and Advanced Machining.

**Co/Prerequisite:** CAT101, 105, 115

**CCP 101 Introductory Craft Skills****3 Cr Hrs**

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.

**Co/Prerequisite:** SAF 101

**CCP 105 Carpentry Basics****4 Cr Hrs**

This 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.

**Co/Prerequisite:** CCP 100

**CCP 110 Floors, Walls, & Ceiling Framing****4 CrHrs**

This course covers framing basics as well as the procedures for laying-out and constructing a wood floor using common lumber as well as engineered building materials. This course also covers the procedures for laying-out and framing walls and ceilings, including roughing-in doors and window openings, construction corners and partition Ts, bracing walls and ceilings, and applying sheathing. **Co/Prerequisite:** CCP 105

**CCP 115 Roof Framing****3 Cr Hrs**

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.

**Co/Prerequisite:** CCP 110

**CCP 120 Windows, Doors, & Stairs****3 Cr Hrs**

This course describes the various types of windows, skylights, and exterior doors, and provides instruction for installing them. It also includes instruction for installing weatherstripping 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.

**Co/Prerequisite:** CCP 115

**CCP 125 Commercial Drawings****2 Cr Hrs**

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.

**Co/Prerequisite:** CCP 115

**CCP 130 Roofing Applications****1 Cr Hr**

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.

**Co/Prerequisite:** CCP 125

**CCP 135 Thermal Moisture Protection****1 Cr Hr**

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.

**Co/Prerequisite:** CCP 130

**CCP 140 Exterior Finishing****2 Cr Hrs**

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.

**Co/Prerequisite:** CCP 135

**CCP 145 Cold Formed Steel Framing** **1 Cr Hr**

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.

**Co/Prerequisite:** CCP 140

**CCP 150 Drywall Installation Finishing** **2 Cr Hrs**

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.

**Co/Prerequisite:** CCP 145

**CCP 155 Doors & Hardware** **1 Cr Hr**

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. It also covers the installation of wooden doors, folding doors, and pocket doors. rated walls.

**Co/Prerequisite:** CCP 150

**CCP 170 Suspended Cielings** **1 Cr Hr**

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.

**Co/Prerequisite:** CCP 155

**CCP 175 Window, Door, Floor, & Ceiling Trim** **1 Cr Hr**

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.

**Co/Prerequisite:** CCP 170

**CCP 180 Cabinet Installation** **1 Cr Hr**

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.**Co/Prerequisite:** CCP 175

**CED 101 Computer Essentials** **2 Cr Hrs**

This course is designed to develop students' computer literacy, keyboarding skills and to meet the needs of students in the associate degree programs and technical certificate programs. The student will learn from hands-on experiences basic skills in file management utilities, word processing, spreadsheets, and graphical presentations in the Windows environment.

**CED 102 Keyboarding** **1 Cr Hr**

This course is designed to develop utilization of the touch system of keyboarding on the standard keyboard and manipulation of the operative parts of the keyboard. Emphasis will be on accuracy with speed.

**CED 108 WordProcessing** **3 Cr Hr**

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.

**CED 115 Computer Applications** **3 Cr Hrs**

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, networking, word processing, spreadsheets and databases.

**CED 116 Advanced Word** **2 Cr Hrs**

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.

**Co/Prerequisite:** CED 115

**CED 117 Advanced Excel** **2 Cr Hrs**

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.

**Co/Prerequisite:** CED 115

**CED 118 Advanced PowerPoint** **2 Cr Hrs**

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.

**Co/Prerequisite:** CED 115

**CED 120 Advanced Computer Applications 3 Cr Hrs**

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.

**Co/Prerequisite:** CED 115

**CED 125 Introduction to Desktop Publishing 3 Cr Hrs**

Provides a study of word processing and desktop publishing. Topics include: desktop publishing concepts, advanced word processing concepts, development of macros, presentation graphics concepts, and troubleshooting applications.

**Co/Prerequisite:** CED 115, 120

**CFT 101 Introduction to Composites 2 Cr Hrs**

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.

**Co/Prerequisite:** AVC 102, 110; MTH 020

**CFT 106 Composite Finish Trim 2 Cr Hrs**

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.

**Co/Prerequisite:** AVC 110; CFT 101, 130

**CFT 107 Composite Assembly 2 Cr Hrs**

Composite Assembly teaches the fundamentals of joining composite structures. Adhesive bonding as well as mechanical fasteners is 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.

**Co/Prerequisite:** CFT 106

**CFT 130 Composites Fabrication Methods/Applications 2 Cr Hrs**

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.

**Co/Prerequisite:** CFT 101, AVC 112

**CFT 135 Overview of Composite Inspection** **1 Cr Hr**

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 utilizes online content.

**Co/Prerequisite:** AER 135, CFT 101

**CFT 140 Composites Inspection** **2 Cr Hrs**

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.

**Co/Prerequisite:** AVC 110, 112; CFT 101, 106, 107, 130

**CFT 141 Disassembly & Damage Removal Techniques** **3 Cr Hrs**

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. **Co/Prerequisite:** AVC 110, 112; CFT 101, 106, 107, 130, 140

**CFT 142 Composite Repair** **4 Cr Hrs**

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 wetlay up and pre preg materials.

**Co/Prerequisite:** CFT 141

**CFT 143 Complex Composite Repairs** **3 Cr Hrs**

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.

**Co/Prerequisite:** CFT 144

**CFT 144 Electrical Bonding Repair** **1 Cr Hrs**

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.

**Co/Prerequisite:** CFT 142



**CHM 100 Chemistry Review** **1 Cr Hr**

Introduces basic concepts covered in CHM 125 Chemistry I. It is recommended for students who want to enroll in Chemistry I or a higher-level chemistry course the following semester. It is not recommended for those taking CHM 110 General Chemistry.

**CHM 110 General Chemistry** **5 Cr Hrs**

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.

**Co/Prerequisite:** MTH 020

**CHM 125 Chemistry I** **5 Cr Hrs**

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.

**Co/Prerequisite:** CHM 100, MTH 101, MTH 112

**CHM 135 Chemistry II** **5 Cr Hrs**

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. ⬆

**CNU 010 Certified Nurse Aide Update** **1 Cr Hr**

This course is for students who originally certified as a Nursing Assistant in the State of Kansas 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.

**Co/Prerequisite:** GRA 101

**CPR 001 CPR for Healthcare Providers** **1 Cr Hrs**

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.

**CRJ 101 Introduction to Criminal Justice** **3 Cr Hrs**

Introduction to the historical backgrounds, agencies, and process, purposes and functions of the system. The ethics, administration and legal problems of the criminal justice system. The student will illustrate how these interrelated components result in the administration of justice today.

**CRJ 105 Criminal Investigation** **3 Cr Hrs**

Explores issues including the effective interview and interrogation techniques, crime scene management and lab processes, crime scene documentation methods, case preparation and court presentation.

**Co/Prerequisite:** CRJ 101, 110

**CRJ 110 Criminal Law** **3 Cr Hrs**

Examines the history, scope and nature of law. It focuses on the parties to a crime; classification of offenses; criminal acts and intent; the capacity to commit crime; and criminal defenses. It will cover the elements of misdemeanor and felony crimes.

**CRJ 115 Agency Administration** **3 Cr Hrs**

Conducts a practical analysis of modern administration theory and supervisory, management principles and their application to the unique operating problems of criminal justice organizations.

**CRJ 120 Juvenile Delinquency and Justice** **3 Cr Hrs**

Examines the historical precedents and philosophical reasons for treating juveniles differently from adults. Reviews empirical evidence about child development that can illuminate the reasons for their special status within the system. It will study the major theories that have been proposed as explanations of delinquent behavior. The course will also provide a detailed overview of the juvenile justice system, from its beginnings to the current state of the institution.

**CRJ 125 Law Enforcement Operations and Procedures** **3 Cr Hrs**

Examines the role of police in society and the application of key concepts to policing scenarios. Students identify, discuss and assess critical police practices and processes to include deployment, arrest procedures, search strategies and other operational considerations.

**Co/Prerequisite:** CRJ 101, 110

**CRJ 130 Criminal Procedures** **3 Cr Hrs**

Introduces basic court system procedures and the jurisdiction of the courts. It also focuses on the constitutional and other legal requirements that affect law enforcement practices and procedures. Specific topics include confessions and interrogations, identification procedures, arrest, search and seizure, and admissibility of evidence.

**CRJ 135 Criminal Justice Interview and Report Writing** **3 Cr Hrs**

Focuses on the unique types of writing required in a criminal justice career. Students are required to gather pertinent information and then record that information by writing a variety of report narratives representative of those prepared by individuals working in a profession within the criminal justice system.

**Co/Prerequisite:** CRJ 101, 110

**CRJ 140 Professional Responsibility in Criminal Justice **3 Cr Hrs****

Explores the major components involved in the study of ethics, particularly as it applies to the field of criminal justice. Focus is placed on the code of conduct and ethics of the criminal justice profession and the standards held to in their professional role. The aim of the course is to produce professionals who are not only critical thinkers, but who have the skills necessary to pursue sound ethics in their day-to-day decisions and activities.

**CRJ 145 Corrections **3 Cr Hrs****

This course provides an introduction into the history of corrections, philosophical background, processes, institutions, parole, probation and offender reentry. Correctional theories and the relationship with other facets of the criminal justice system are examined.

**CRJ 150 Community Policing **3 Cr Hrs****

An examination of the relationship between the police and the community they serve. Defines and explores modern philosophies and techniques designed to build partnerships between the police and citizens.

**Co/Prerequisite:** CRJ101

**CRJ 155 Policing Diverse Cultures **3 Cr Hrs****

This course examines the challenges and opportunities law enforcement faces providing public safety services in culturally diverse communities. The influences of culture, ethnicity, race, sexual orientation, and socioeconomic class will also be discussed.

**Co/Prerequisite:** CRJ 101

**CRJ 160 Internship in Criminal Justice **3 Cr Hrs****

The purpose of the internship program is to allow students an opportunity to gain knowledge and experience in law enforcement and public safety services and further explore careers in the field with a focus on urban policing.

**Co/Prerequisite:** CRJ 101, 125, 135, 140

**CRJ 165 Directed Independent Study **3 Cr Hrs****

This course is an extension of Police Sciences curriculum. The course is designed to provide a structured learning experience to broaden the student's comprehension of the outcomes and competencies associated with Police Sciences. Topics of specific interest to the student, augmenting the Police Sciences curriculum are developed with competencies based on student needs/or requirements to apply learned skills to out of class activities and work-related environments or projects.

**Co/Prerequisite:** CRJ 101, 125, 135, 140

**CRJ 170 Seminars in Criminal Justice** **3 Cr Hrs**

This course provides focused instruction in the areas of law enforcement principals, criminal investigations, police response, policy formation and administrative methods for effective policing in contemporary society. Students will participate in real world scenarios and work through these situations using the Judgmental Use of Force Simulator.

**Co/Prerequisite:** CRJ 101, 125, 135, 140

**CRJ 180 KELTC or Equivalent Law Enforcement** **12 Cr Hrs**

**Academy Training**

**CWG 103 Print Reading II / Welding** **1 Cr Hr**

Blue Print II 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.

**Co/Prerequisite:** AVC 110, 112; CWG 115, 120, 125

**CWG 110 Welding Applications** **4 Cr Hrs**

The student will spend a total 26 hrs. in each – SMAW, GMAW, GTAW, & Oxy Fuel welding. Students will learn basic elements of each in the course.

**Co/Prerequisite::** AVC 110, 112

**CWG 115 SMAW** **3 Cr Hrs**

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; build pads of weld beads with selected electrodes in the flat position; build pads of weld beads with selected electrodes in the horizontal position; perform basic SMAW welds on selected weld joints; and perform visual inspection of welds.

**Co/Prerequisite:** AVC110, 112; CWG110

### **CWG 116 SMAW II**

**4 Cr Hrs**

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.

**Co/Prerequisite:** AVC110, 112; CWG110, 115

### **CWG 120 GMAW**

**3 Cr Hrs**

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; build pads of weld beads with selected electrodes in the flat position; build pads of weld beads with selected electrodes in the horizontal position; produce basic GMAW welds on selected weld joints; and conduct visual inspection of GMAW welds.

**Co/Prerequisite:** AVC110, 112; CWG110

### **CWG 121 GMAW II**

**4 Cr Hrs**

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 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 GMAW welds Student will perform welds in the vertical (3) and overhead (4) positions, this will include but not limit to fillet weld and groove welds.

**Co/Prerequisite:** AVC110, 112; CWG110, 120

### **CWG 125 GTAW**

**3 Cr Hrs**

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 electrode and filler metal selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes and filler material in the flat position; build pads of weld beads with selected electrodes and filler material in the horizontal position; perform basic GTAW welds on selected weld joints; and perform visual inspection of GTAW welds. **Co/Prerequisite:** AVC110, 112; CWG110

**CWG 126 GTAW II****4 Cr Hrs**

Through classroom and/or shop/lab learning and assessment activities, students in this course will: explain the gas metal arc welding process (GTAW); demonstrate the safe and correct set up of the (GTAW) work station; correlate (GTAW) electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses. Students will 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 (GTAW) welds. Students will perform welds in the vertical (3) and overhead (4) positions; this will include but not be limited to fillet weld and groove welds. Students will also be introduced to aluminum and stainless steel. **Co/Prerequisite:** AVC110, 112; CWG110, 125

**CWG 130 Robotic Welding****3 Cr Hrs**

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, programming, backups and protection, safety, and maintenance of the welding and robot equipment.

**Co/Prerequisite:** CED 101; CWG 110, 120, 121

**CWG 141 Oxy-Acetylene Welding & Cutting****2 Cr Hrs**

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.

**Co/Prerequisite:** AVC 110, 112

**CWG 145 Fabrication & Design****2 Cr Hrs**

This course is designed to provide students with the opportunity to apply fabrication and design principles in various WATC campus related and student projects.

**Co/Prerequisite:** AVC 110, 112

**CWG 149 Materials & Testing****2 Cr Hrs**

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.

**Co/Prerequisite:** AVC 110, 112; CWG 120, 121

**CWG 242 SMAW D1.1 Qualification****4 Cr Hrs**

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.

**Co/Prerequisite:** CWG 116, 121 or instructor approval

**CWG 243 GMAW D1.1 Qualification****4 Cr Hrs**

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.

**Co/Prerequisite:** CWG 116, 121 or instructor approval

**CWG 250 API 1104 Qualification****4 Cr Hrs**

Assists students in preparing to take the pipe certification test. Students follow all safety procedures related to the various tools and equipment involved in this class. They understand the certification and code system for pipe certification. They also identify, measure, cut and prepare the pipe required for this certification. They learn the skills for structural welding cross-country gas and oil lines and have time to practice these skills in preparation for the pipe certification test.

**Co/Prerequisite:** CWG 116, 121 or instructor approval

**D****DAS113 Dental Materials I****4 Cr Hrs**

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.

**Co/Prerequisite:** BIO 150; CPR 001; DAS114, 119, 120, 122, 147, 149

**DAS114 Dental Radiology I****3 Cr Hrs**

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.

**Co/Prerequisite:** BIO 150; CPR 001; DAS 113, 119, 120, 122, 147, 149

**DAS 119 Dental Anatomy****2 Cr Hrs**

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.

**Co/Prerequisite:** BIO 150; CPR 001, DAS 113, 114, 120, 122, 147, 149

**DAS 120 Dental Science****2 Cr Hrs**

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 administering/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 administering/monitoring of nitrous-oxygen analgesia.

**Co/Prerequisite:** BIO 150; CPR 001, DAS 113, 114, 119, 122, 147, 149

**DAS 122 Chairside Assisting I****4 Cr Hrs**

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.

**Co/Prerequisite::** BIO 150; CPR 001, DAS 113, 114, 119, 120, 147, 149

**DAS 140 Chairside Assisting II****2 Cr Hrs**

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.

**Co/Prerequisite:** DAS 150, 113, 114, 119, 120, 122, 146, 147, 148, 149

**DAS 146 Dental Radiology II****1 Cr Hr**

Continuation of Radiology I with more intensive experience in exposing, processing and mounting intraoral films using the DXTTR manikin and patients. Students will be closely supervised and an evaluation will be made of each completed survey. Radiographic safety and infection control procedures are emphasized.

**Co/Prerequisite:** DAS 113, 114, 119, 120, 122, 140, 147, 148, 149, 150

**DAS 147 Dental Practice Management****3 Cr Hrs**

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.

**Co/Prerequisite:** BIO 150; CPR 001; DAS 113, 114, 119, 120, 122, 149



**DAS 148 Dental Materials II** **1 Cr Hr**

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.

**Co/Prerequisite:** DAS 113, 114, 119, 120, 122, 140, 146, 147, 149, 150

**DAS 149 Infection Control for Dental Practice** **2 Cr Hrs**

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 OSHA and ADA guidelines.

**Co/Prerequisite:** BIO 150; CPR 001; DAS 113, 114, 119, 120, 122, 147

**DAS 150 Clinical Experience** **7 Cr Hrs**

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.

**Co/Prerequisite:** DAS 113, 114, 119, 120, 122, 140, 147, 148, 149

**DAS 215 Supragingival Scaling** **5 Cr Hrs**

This is a course approved by the Kansas Dental Board, designed for experienced dental assistants to expand their skills in preventive dentistry with didactic, laboratory and clinical instruction in supragingival scaling and polishing. Includes review of dental anatomy and terminology, radiography and infection control, as well as didactic instruction in nutrition, periodontal disease, dental caries, oral hygiene instruction, topical fluoride, principles of instrumentation, communication skills and risk management.

**Co/Prerequisite:** Graduate of an accredited dental assistant program and CDA (Certified Dental Assistant) and six months of experience as a dental assistant or three years employment as a dental assistant within the last five years or departmental consent or satisfactory course placement assessment.

**DIS 150 Directed Individual Studies****4 Cr Hrs**

Provides the instructor and student an opportunity to develop special learning environments. Instruction is delivered through occupational work experience, practicum's, 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 12 credit hours.

**DIS 151 Directed Individual Studies****5 Cr Hrs**

Provides the instructor and student an opportunity to develop special learning environments. Instruction is delivered through occupational work experience, practicum's, 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 12 credit hours.

**E****EBS 105 Becoming a Master Student****3 Cr Hrs**

This course is designed to help the student learn effective study skills that enable the student to be academically successful. The student will learn how to make application of these skills in a course of study. The course will cover time management, goal setting, listening, note taking, test strategies, and online learning. It is recommended any student who has a GPA of 2.0 or lower upon initial enrollment of after his/her first semester of college course work enroll in the class. This course does not count toward an A.S., A.A., A.G.S., or A.A.S. degree.

**EBS 114 Pre-Algebra with Review****5 Cr Hrs**

Provides students with the skills necessary to be successful in their math courses. The course is designed to identify the student's specific learning style, provide note taking/test taking techniques, and offer math preparation strategies. These skills are fundamental in solving industrial applications, including dimensioning, dosage calculations and formulas. Course moves at a slower pace than EBS115 Pre- Algebra, includes Basic arithmetic review with an introduction to algebraic reasoning and computation. This course does not count toward the A.A., A.S., A.A.S., or A.G. S. degree.

**Co/Prerequisite:** EBS 113

**EBS 115 Pre-Algebra Math** **3 Cr Hrs**

Provides students with the skills necessary to be successful in their math courses. The course is designed to identify the student's specific learning style, provide note taking/test taking techniques, and offer math preparation strategies. This course does not count toward the A.A., A.S., A.A.S., or A.G. S. degree.

**Co/Prerequisite:** EBS 113

**ECO 105 Principles of Macroeconomics** **3 Cr Hrs**

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.

**ECO 110 Principles of Microeconomics** **3 Cr Hrs**

Attention is given to the methods of producing the goods and services that the economy provides. The following areas are explored: supply, demand, pricing, scarcity, business firms, business anti-trust and public interest, incomes, wages and salaries, income distribution, taxes and tax reform.

**EDU 120 Introduction to Teaching** **3 Cr Hrs**

This is a preparation course for those who are considering education as a career field. Course content introduces students to the various components of formalized schooling and education of today. It gives perspective teachers an overview of the skills and knowledge needed to be a successful professional. This course must be taken in conjunction with EDU121 Introduction to Teaching.

**Co/Prerequisite:** Must be taken simultaneously with EDU121

**EDU 121 Introduction to Teaching – Field Experience** **1 Cr Hr**

This is an extension of EDU120 Introduction to Teaching and 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 and reflect upon topics and issues presented in the EDU120 Introduction to Teaching course.

**Co/Prerequisite:** EDU 120

**EMP 105 Career Strategies** **1 Cr Hr**

Professional communications and the importance of the professional credential and professional memberships are explored. Interviewing skills are expanded through resume writing.

**ENG 010 College Reading Skills** **3 Cr Hrs**

Develops students' reading skills necessary for successful completion of postsecondary coursework. Instruction is based on application of research-based reading strategies to authentic college texts. It is required that any student scoring in the range of 0-60 on the COMPASS reading assessment enrolls in this course. The course does not count toward the A.S., A.A., or A.A.S. degrees.

**ENG 020 Basic Writing Skills****3 Cr Hrs**

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. The course does not count toward the A.S., A.A., or A.A.S. degrees.

**ENG 030 English****3 Cr Hrs**

Designed to equip students for success in the writing required during academic endeavors. Review of grammar is individualized and self-paced. Writing assignments include a number of paragraphs and major essays. To demonstrate readiness for and to 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. The course does not count toward the A.S., A.A., or A.A.S. degrees.

**Co/Prerequisite:** EBS103

**ENG 035 PACER English****5 Cr Hrs**

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.

**ENG 100 Composition Lab****1 Cr Hr**

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.

**Co/Prerequisite:** ENG 035

**ENG 101 Composition I****3 Cr Hrs**

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.

**Co/Prerequisite:** ENG 030

**ENG 110 Introduction to Literature****3 Cr Hrs**

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.

**Co/Prerequisite:** ENG 101

**ENG 120 Composition II****3 Cr Hrs**

Through a study of poetry, short story, drama and essays as literary forms, this course furthers students' writing skills. This course also improves research techniques through writing an indepth research essay in Modern Language Association (MLA) style. It emphasizes accuracy and fluency in expressing sound ideas in class discussions, assignments and essays.

**Co/Prerequisite:** ENG 101 Composition I with a grade of "C" or better and a passing grade on the Composition I post-test. High school students should have senior standing to enroll in ENG 120 Composition II

**ENT 110 Introduction to Entrepreneurship****3 Cr Hrs**

Familiarizes students with the world of small business. Students are introduced to the concepts needed to seek out business opportunities as well as the tools needed to evaluate successful ventures. Considerable attention is given to the concepts of planning, financing and marketing new businesses.

**ENT 115 Entrepreneurship II****3 Cr Hrs**

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.

**Co/Prerequisite:** ENT 110

**F****FOL 101 Spanish I****5 Cr Hrs**

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.

**FOL 110 Spanish II****5 Cr Hrs**

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.

**Co/Prerequisite:** FOL101

## G

### **GRA 101 Certified Nurse Aide **5 Cr Hrs****

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.

### **GRA 108 Rehabilitative Aide **2 Cr Hrs****

Designed to train aides to fulfill requirements for efficient rehabilitative care of residents in nursing homes. Provides the opportunity to learn the rehabilitative philosophy, work with departmental organizations, and understand the role of the physical therapist and the proper techniques of body mechanics, transfers, and ambulation.

**Co/Prerequisite:** Certified Nurse Aide Licensure - Kansas

### **GRA 116 Activity Director/ Social Service Designee **5 Cr Hrs****

This course is an introduction to the long-term care setting the various methods of provision of recreation and social services in this setting. Included is information to give understanding of the regulatory process and the Quality assurance system in this setting. An Overview of social work practice, introduction to recreation service provisions, and the federal and state regulations are included. At course completion, the learner will be qualified to hold a position as an Activity Director or Social Services director in the longterm care setting.

**Co/Prerequisite:** Certified Nurse Aide Licensure - Kansas

### **GRA 119 Medication Aide **5 Cr Hrs****

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.

**Co/Prerequisite:** 18 years of age and a nurse aide registry with no pending or current prohibitions against that individual's certification

## H

### **HHA 100 Home Health Aide **2 Cr Hrs****

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).

**Co/Prerequisite:** GRA 101

**HIS 110 United States History to 1877** **3 Cr Hrs**

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.

**HIS 120 United States History since 1865** **3 Cr Hrs**

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.

**HIS 130 World History I** **3 Cr Hrs**

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.

**I**

**IND 100 Industrial Safety Procedures** **1 Cr Hr**

This course provides an in-depth study of the human and safety practices required for maintenance of industrial, commercial, and home electrically operated equipment. Topics include: introduction to OSHA regulations; safety tools, equipment, and procedures; and first aid and cardiopulmonary resuscitation.

**IND 102 Manufacturing Overview** **1 Cr Hr**

This course is designed to provide technicians with a basic understanding of the business principles which drive manufacturing. Topics include basic terminology, planning and scheduling and quality assurance.

**IND 104 Drafting for Industrial Maintenance** **1 Cr Hr**

This course is designed to provide a basic understanding of machine blueprints and the ability to freehand sketch machine parts as needed on the plant floor.

**IND 106 Direct & Alternating Current** **4 Cr Hrs**

This course introduces direct current (DC) concepts and applications and the theory and application of varying sine 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. **Co/Prerequisite:** IND100 or AVC 110

**IND 108 Industrial Wiring****2 Cr Hrs**

This course teaches the fundamental concepts of industrial wiring with an emphasis on installation procedures. Topics include: grounding, raceways, three-phase systems, transformers (three-phase and single-phase), wire sizing, overcurrent protection, NEC requirements, industrial lighting systems, and switches, receptacles, and cord connectors.

**Co/Prerequisite:** IND106

**IND 109 Basic Industrial Programmable Logic Controls****3 Cr Hrs**

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.

**Co/Prerequisite:** IND116 (Not required for students enrolled in the Robotics Program)

**IND 110 DC & AC Motors****1 Cr Hr**

This course introduces the fundamental theories and applications of single-phase and three-phase motors. Topics include: motor theory and operating principles, motor terminology, motor identification, NEMA standards, AC motors, DC motors, scheduled preventive maintenance, and troubleshooting and failure analysis.

**Co/Prerequisite:** IND108

**IND 112 Fundamentals of Motor Control****2 Cr Hrs**

This course introduces the fundamental concepts, principles, and devices involved in industrial motor control. Emphasis is placed on developing a theoretical foundation of industrial motor control devices. Topics include: principles of motor control, control devices, symbols and schematic diagrams.

**Co/Prerequisite:** IND110

**IND 113 Solid State & Digital Devices****3 Cr Hrs**

This course introduces the physical characteristics and applications of solid state devices and digital circuits. Topics include: introduction to semiconductor fundamentals, diode applications, basic transistor fundamentals, basic amplifiers, and semiconductor switching devices, digital devices, arithmetic circuits and conversion from analog to digital and digital to analog.

**Co/Prerequisite:** IND 106

**IND 114 Magnetic Starters & Braking****2 Cr Hrs**

This course provides instruction in wiring motor control circuits. Emphasis is placed on designing and installing magnetic starters in across-the-line, reversing, jogging circuits, and motor braking. Topics include: control transformers, full voltage starters, reversing circuits, jogging circuits, and braking.

**Co/Prerequisite:** IND112



**IND 116 Advanced Motor Controls****3 Cr Hrs**

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.

**Co/Prerequisite:** IND112

**IND 117 Variable Speed Motor Control****2 Cr Hrs**

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.

**Co/Prerequisite:** IND116

**IND 119 Industrial Precision Alignment****3 Cr Hrs**

In this course students will learn the precision alignment techniques and skills required bring machinery back to OEAM specifications while following all industry standards including documentation and scheduling. Course includes working knowledge of axis of movement, M&G codes, tolerance, machine geometry, and manual and laser precision alignment equipment.

**Co/Prerequisite:** IND117

**IND 121 Maintenance for Reliability****3 Cr Hrs**

This course applies advanced instrumentation in conjunction with principles of mechanical physics, vibration and particulate analysis, thermography, and advanced reliability concepts relative to precision/predictive maintenance of industrial and automated equipment.

**Co/Prerequisite:** IND119

**IND 123 Industrial Fluid Power & Pumping & Piping Systems****4 Cr Hrs**

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. **Co/Prerequisite:** IND121

**IND 125 Industrial Computer Applications****1 Cr Hr**

This course provides a foundation in industrial computers and computer systems with a focus in linking computers to the plant floor process. Topics include: hardware, software, boot sequence, configuration, troubleshooting, and communication platforms. Students will be prepared to take the A+ certification test.

**Co/Prerequisite:** IND106

**IND 130 Industrial Mechanics****3 Cr Hrs**

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. Topics include: mechanical tools, fasteners, basic mechanics, lubrication, bearings, packing's and seals.

**Co/Prerequisite:** MTH112

**IND 131 Industrial Programmable Logic Controls (PLC)****3 Cr Hrs**

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.

**Co/Prerequisite:** IND109

**IND 132 Industrial Instrumentation****3 Cr Hrs**

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.

**Co/Prerequisite:** IND131

**IND 153 Advanced Industrial Computer Applications****1 Cr Hr****IND 155 Advanced Industrial Programmable Logic Controls****3 Cr Hrs****INF 105 A+ Certification - Essentials****3 Cr Hrs**

This course will prepare student to take the CompTIA A+ Practical Application exam which measures the necessary competencies for an entry-level IT (Information Technology) professional. Successful students will have the skills required to install, configure, upgrade, and maintain PC (Personal Computer) workstations, the Windows OS (Operating System) and SOHO (Small Office Home Office) networks. 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.

**INF 110 A+ Certification - Application****3 Cr Hrs**

This course will prepare student to pass the CompTIA A+ Essentials exam. The CompTIA A+ Essentials examination measures necessary competencies for an entry-level IT professional. 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.

**Co/Prerequisite:** INF105 A+ Certification – Essentials

**INF 115 Networking + Part I****3 Cr Hrs**

This course along with INF116 Networking+ Part II prepares the student for CompTIA's Network+ certification exam. The class prepares students to work with network operating systems and network design issues.

**INF 116 Networking + Part II****3 Cr Hrs**

This course is a continuation of INF115 Networking+ Part I and prepares the student for CompTIA's Network+ certification exam. The class prepares students to work with network operating systems and network design issues. Also covered at length are back-up and disaster recovery issues and viruses.

**Co/Prerequisite:** INF115

**INF 120 Security + Part****3 Cr Hrs**

This course prepares student for the CompTIA Security+ Certification exam. CompTIA Security+ exam is an internationally recognized validation of foundation-level security skills and knowledge, and is used by organizations and security professionals around the globe.

**Co/Prerequisite:** INF115

**INT 100 Accessories****1 Cr Hr**

This is an introduction to decorative accessories that focuses on the components of display for effective visual presentation. This course utilized the principles and techniques that are common to display work in interiors and various businesses. The main emphasis will be on design and color principals, hangers, and materials used for arrangement and display, and safety issues.

**INT 101 Interior Design Fundamentals****2 Cr Hrs**

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.

**INT 105 Blueprint Reading for Interior Design** **2 Cr Hrs**

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.

**INT 110 Color Theory** **2 Cr Hrs**

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.

**INT 126 Textiles** **3 CrHrs**

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.

**INT 127 Materials for Interior Environments** **2 Cr Hrs**

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.

**INT 131 Faux and Decorative Painting** **4 Cr Hrs**

This course is an introduction to the techniques used to produce painted and faux finishes. Topics include the history of faux finishing, color mixing, technology of paint, materials used for creating faux finishes, and specific issues related to wall glazing, ragging, sponging, strie, wood graining, granites, stones, marble, Venetian plasters and raised plaster and other techniques. Upon completion of the course, the student will be able to produce a wide variety of finishes. This course introduces students to basic business practices for painted and faux finishing, book keeping, and pricing for various faux techniques.

**INT 141 History of Furniture & Architecture** **3 Cr Hrs**

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.

**INT 155 Lighting Technologies****3 Cr Hrs**

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.

**Co/Prerequisite:** INT190

**INT 160 Design Studio I****3 Cr Hrs**

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.

**Co/Prerequisite:** INT 126, 145, 150, 155, 190, 196, 101, 105, 110; MCD 101, 102

**INT 165 Design Studio II****2 Cr Hrs**

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.]

**Co/Prerequisite:** INT160

**INT 170 Business Practices & Portfolio Development****3 Cr Hrs**

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.

**Co/Prerequisite:** INT 105, 141, 190, 101, 110, 155, 160

**INT 175 Seminars for Interior Design****2 Cr Hrs**

This course is designed to help the student increase their knowledge concerning professional development through resources and artistic exploration. This course is held outside the classroom in real world settings. Tours of museums, buildings 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.

**INT 185 Mentorship for Interior Design****1 Cr Hr**

This course is designed to help the student increase their knowledge in an in-depth application and reinforcement of interiors and employability principles in an actual job setting. Mentorship allows the student to get involved with on the job applications that require full time commitment. The student will be evaluated by the use of written performance evaluations. Application of interior principles, problem solving, adaptability to job setting, uses of personal skills, development of constructive work habits and ethics, practice confidentially, development of productively and job performance through practice.

**Co/Prerequisite:** INT160

**INT 190 Drafting for Interiors****2 Cr Hrs**

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.

**INT 192 Illustration for Interior Design****3 Cr Hrs**

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.

**Co/Prerequisite:** INT 190

**INT 193 Rendering for Interior Design****3 Cr Hrs**

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.

**INT 196 Interior Design Codes & Standards****3 Cr Hrs**

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.

**INT 201 Floral Design 4 Cr Hrs**

An introduction to floral arrangements focuses on the components of display for effective visual presentation. This course utilizes the principles and techniques that are common to display work in interiors and various businesses. The main emphasis will be on design and color principals, tools and materials used for floral arrangement and display, and safety issues. Wedding floral design and solemn occasions, plant and plant care, artificial and dried flowers, holidays, and theme arrangements are inclusive. Floral design business, securing funds, laws and licensing, shop layout, wholesale market, and pricing strategies for floral design business will be part of this program.

**INT 216 Kitchen Design 3 Cr Hrs**

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.

**Co/Prerequisite:** INT 190

**INT 217 Bath Design 3 Cr Hrs**

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.

**Co/Prerequisite:** INT 190

**INT 218 Kitchen & Bath Design 4 Cr Hrs**

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.

**Co/Prerequisite:** INT 190

**J**

**K**

# L

## **LEN 100 Lean for Operations** **3 Cr Hrs**

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.

## **LEN 105 Lean Culture People Systems** **3 Cr Hrs**

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.

**Co/Prerequisite:** LEN100

## **LEN 106 Value Stream Alignment** **3 Cr Hrs**

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.

## **LEN 109 Lean for Engineering** **3 Cr Hrs**

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.

**Co/Prerequisite:** LEN 100

## **LEN 110 Lean for Services Offices** **3 Cr Hrs**

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.



# M

## **MMA 105 Basic Visual Design Concepts 3 Cr Hrs**

An introduction to design for visual communication. Study of the elements and principles of design as they relate to formal issues in the making of art. This course also provides an introduction to the study of color as a formal element. Instruction will include lecture, critique, and supervised studio practice.

## **MMA 110 Introduction to Multimedia 3 Cr Hrs**

Introduction to skills, principles and ethics of using audio, images and video in telling stories through Internet-based media.

## **MMA 115 Camera Techniques 3 Cr Hrs**

This course will focus on the pre-production aspects of digital filmmaking such as camera angles and positioning, raw footage storage and editing, keying and shot set-ups, titles and compositional components of depth of field, character positioning, and narrative use of light and sound.

## **MMA 120 3D Computer Modeling 3 Cr Hrs**

Utilizing computer modeling software students will develop three-dimensional objects via the subtractive and additive methods. Student will demonstrate proficiency in multiplying and scaling designed objects in specific locations and environments, including animation.

## **MMA 125 Video Game Concept Design 3 Cr Hrs**

In this course students will learn the basics of designing environments, characters and assets for video games. The goal of this class is for students to establish a look and concept art for a game using Photoshop. These designs will be used in creating assets for their own game environments.

## **MCD 101 Introduction to CAD I 3 Cr Hrs**

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. **Co/Prerequisite:** CED 101, 115

**MCD 102 Introduction to CAD II **2 Cr Hrs****

This course is a continuation of Introduction to CAD I. All the skills taught in Introduction to CAD I will be reinforced with projects.

**Co/Prerequisite:** MCD 101

**MCD 105 Technical Drafting I **1 Cr Hr****

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.

**Co/Prerequisite:** AVC 112

**MCD 110 Principles of Tool Design **2 Cr Hrs****

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.

**Co/Prerequisite:** MCD 124

**MCD 112 Industrial Materials & Processes **2 Cr Hrs****

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.

**Co/Prerequisite:** MCD 124

**MCD 114 Architectural Drafting & Design **3 Cr Hrs****

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.

**Co/Prerequisite:** MCD102, 105

**MCD 115 Machine Drafting & Design **3 Cr Hrs****

Includes instruction in creative design, geometric construction, auxiliaries, dimensioning, sectioning, isometrics, oblique's, specifications and notes, manufacturing engineering techniques and Machinery's Handbook. Includes developing prints of working drawings, researching trade periodicals, learning machine terminology, using ANSI Standards and basic manufacturing blueprint development.

**Co/Prerequisite:** MCD 105, 121

**MCD 121 Descriptive Geometry** **3 Cr Hrs**

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 also create flat pattern layouts to form three-dimensional shapes.

**Co/Prerequisite:** MCD101

**MCD 122 Architectural CAD** **4 Cr Hrs**

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.

**Co/Prerequisite:** MCD 114

**MCD 124 Advanced AutoCAD** **4 Cr Hrs**

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.

**Co/Prerequisite:** MCD 115

**MCD 132 Basic Chief Architect/Architectural Desktop** **3 Cr Hrs**

Students use 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.

**Co/Prerequisite:** CED 101, 115

**MCD 134 Advanced Chief Architect/Architectural Desktop** **3 Cr Hrs**

Students use 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.

**Co/Prerequisite:** MCD132

**MCD 140 Drafting Technology Internship** **4 Cr Hrs**

Introduces students to the application and reinforcement of drafting and employability principles in an actual job setting. This internship acquaints students 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.

**Co/Prerequisite:** Instructor approval, must have a drafting position with a company

**MCD 201 Geometric Dimensioning & Tolerance** **3 Cr Hrs**

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.

**MCD 205 Residential Drafting** **3 Cr Hrs**

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.

**Co/Prerequisite:** MCD 132

**MCD 206 Commercial Drafting & Design** **3 Cr Hrs**

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.

**MDU 010 Medication Aid Update** **1 Cr Hr**

Provides the continuing education required every two years by the Kansas Department of Health and Environment for renewal of the medication aide certificate.

**Co/Prerequisite:** GRA 101, 119

**MEA 101 Professional Issues** **2 Cr Hrs**

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.

**MEA 111 Patient Care I** **5 Cr Hrs**

Introduces basic clinical skills necessary for the Medical Assistant. Aseptic practice for the medical office will be defined, basic patient interaction such as interviewing, obtaining and recording vital signs, assisting with basic physical exams and testing will be studied.

**Co/Prerequisite:** ALH 155, MEA 116

**MEA 113 Administrative Aspects****4 Cr Hrs**

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.

**MEA 115 Insurance Billing and Coding****3 Cr Hrs**

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.

**Co/Prerequisite:** ALH101, BIO 150

**MEA 116 Pharmacology Medication Administration****2 Cr Hrs**

Course focus is in medication dosage calculation and medication administration by parenteral and gastrointestinal routes for adults and children. Competing a written prescription and interpretation of the medical order. Successful demonstration of skill competency is required.

**MEA 121 Patient Care II****4 Cr Hrs**

Focuses on expanding the knowledge and skills in Patient Care I. More complex and independent procedures performed by the Medical 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).

**Co/Prerequisite:** ALH 101, 155; BIO 150; MEA 101, 111, 113, 115, 116

**MEA 125 Clinical Laboratory Procedures****4 Cr Hrs**

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.

**Co/Prerequisite:** ALH 101, 155; BIO 150; MEA 101, 111, 113, 115, 116

**MEA 130 Career Strategies****1 Cr Hrs**

Professional communications and the importance of the professional credential and professional memberships are explored. Interviewing skills are expanded through resume writing.

**MEA 131 Medical Assisting Practicum** **6 Cr Hrs**

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).

**Co/Prerequisite:** ALH 101, 130, 131, 155; MEA 101, 111, 113, 115, 116, 121, 125, 130

**MEA 210 Advanced Procedures in Medical Assisting** **4 Cr Hrs**

Provides the graduate Medical Assistant an opportunity to expand current knowledge and expertise in specialized testing areas and in assisting with the performance of more complex clinical duties.

**MEC 101 Insurance Billing & Coding for the Physician's Office** **4 Cr Hrs**

Designed to prepare students with the mechanics and tools for the submitting of electronic/paper insurance claim forms after applying current industry coding for medical office treatments and procedures.

**Co/Prerequisite:** ALH101; BIO 100, 150

**MEC 110 Legal and Ethical Issues in Healthcare** **3 Cr Hrs**

This course introduces the U.S. legal system, laws and ethical issues and how they relate to health care.

**MEC 115 Pathophysiology** **3 Cr Hrs**

Course focus is on the diseases, disorders, conditions, and the diagnostic and corrective procedures performed. Content is delivered according to body systems.

**MEC 120 International Classification of Disease Coding** **4 Cr Hrs**

This course covers coding principles using the International Classification of Diseases (ICD) for the identification, coding and sequencing of principal, primary and secondary diagnoses and diagnostic and therapeutic procedures.

**MEC 125 Introduction to Health Information** **3 Cr Hrs**

This course is designed to give the student a working knowledge of health care delivery systems; the health information profession; purpose, use and functions of the health record; documentation standards; and computerized information management systems utilized by health information management departments.

**MEC 130 Reimbursement Methodologies** **4 Cr Hrs**

This course emphasizes billing and reimbursement procedures for various for healthcare settings and an exploration of the legal and ethical issues of reimbursement.

**MEC 135 Healthcare Coding Practicum** **3 Cr Hrs**

Supervised learning experience designed to give students clinical experience in healthcare coding. Emphasis is placed on the quality of code assignments, sequence and payment selection.

**MEC 140 Current Procedural Terminology Coding** **3 Cr Hrs**

Current Procedural Terminology (CPT) Coding is designed to present basic CPT and HCPCS coding. The course will enable students to develop a basic knowledge of elements of medical procedural coding using the CPT and HCPCS manuals. Various body systems will be reviewed so that students will better understand how the coding is derived. The applications and principles learned in this course are relevant to careers in healthcare coding.

**MET 101 Fundamentals of Quality Control** **3 Cr Hrs**

This course will provide students with a fundamental understanding of quality improvement. Topics will include history of the movement, impact on industry, major components and tools of quality control as well as future trends. Students will have the opportunity to apply what they learn to industry based scenarios.

**MET 109 Manufacturing Quality Control** **3 Cr Hrs**

Introduces the student to statistical quality control of industrial processes. Topics include: descriptive statistics, inferential statistics, statistical process, and operational production management. The course will enable the student to conduct economic feasibility studies and assist in the preparation of justification documentation for capital expenditures. In addition to illustrating classroom presentations, laboratories expand the student's experience in broader areas of application which encompass additional materials.

**MFG 100 Lean Manufacturing** **3 Cr Hrs**

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.

**MGT 106 Introduction to Human Resources** **3 Cr Hrs**

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.

**MGT 111 Business Ethics****3 Cr Hrs**

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.

**MMG 101 Machining Blueprint****1 Cr Hr**

Utilize CAD and CAM programs to design parts and program manufacturing machines.

**Co/Prerequisite:** AVC112; MMG 116

**MMG 115 Machining I****3 Cr Hrs**

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.

**Co/Prerequisite:** AVC 110, 112; MMG 101116, 130, 131, 132

**MMG 116 Quality Control & Inspection****1 Cr Hr**

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.

**MMG 126 Machining II****3 Cr Hrs**

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.

**Co/Prerequisite:** MMG115



**MMG 130 Bench Work****1 Cr Hrs**

Students will be provided the opportunity to learn and practice benchwork skills such as filing, drilling, tapping, deburring and layout for projects. They will gain valuable practical experience in the use of various hand tools by producing basic benchwork projects. Topics will include safety, print reading, job planning, and quality control.

**Co/Prerequisite:** AVC 110, 112; MMG 101, 116

**MMG 131 Metallurgy****1 Cr Hrs**

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.

**Co/Prerequisite:** AVC 110, 112; MMG 101, MMG 116, MMG 132

**MMG 132 Machine Tool Processes****1 Cr Hr**

Students learn to conduct a job hazard analysis for a machine tool group, analyze blueprints to layout parts and materials, select hand tools and common machine shop mechanical hardware for specific applications, prescribe cutting tools for assigned operations, calculate stock size to minimize drop, machine parts to specifications outlined in machine handbooks, summarize preparations for machining operations, and apply precautions to minimize hazards for work with lathes, mills, drills and grinders.

**Co/Prerequisite:** AVC 110, 112; MMG 101, 116

**MMG 142 Manual Lathes****6 Cr Hrs**

This course includes theory and laboratory instruction about basic lathe operations, safety, use and care of hand and machine tools. A combination of instructional methods are utilized including hands on instruction in a state of art machining lab and interactive on line learning. Topics include basic lathe operations such as turning, facing, drilling, tapping and tool grinding.

**MMG 147 Principles of Machining I****2 Cr Hrs**

Introduces students to basic metal-working concepts, including metal-cutting fundamentals, identification and use of hand and cutting tools, various machine tool operations, and the use and care of precision measuring instruments. Course is a preliminary to matching lab courses and addresses the safe use of machine and hand tools.

**MMG 155 CNC Lathes****3 Cr Hrs**

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.

**Co/Prerequisite:** AVC 110

**MMG 156 CNC Operations 3 Cr Hrs**

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.

**Co/Prerequisite:** AVC 110, 112; MMG 101, 115, 116, 126, 130, 131, 132

**MMG 160 CNC Milling I 3 Cr Hrs**

Students will gain practical experience in setting up and performing basic operations on CNC Milling machines.

**Prerequisite** MMG 155

**MMG 165 Advanced NC Programming 3 Cr Hrs**

Students will gain programming experience needed for the NIMS CNC Mill Programming certification.

**MMG 170 CAM I 3 Cr Hrs**

Course will be added to fulfill industry request for master cam programming.

**MMG 225 Machining Internship 4 Cr Hrs**

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.

**MSO 121 Advanced Word for Office Professionals 1 Cr Hr**

Upon completion of this course students should understand the basic and advanced concepts of Word. Students should be able to pass the Microsoft Word Certification Exam.

**Co/Prerequisite:** CED 115

**MSO 122 Advanced Excel for Office Professionals 1 Cr Hr**

Upon completion of this course students should understand the basic and advanced concepts of Excel. Students should be able to pass the Microsoft Excel Certification Exam.

**Co/Prerequisite:** CED 115

**MSO 123 Advanced Powerpoint for Office Professionals 1 Cr Hr**

Upon completion of this course students should understand the basic and advanced concepts of PowerPoint. Students should be able to pass the Microsoft PowerPoint Certification Exam.

**Co/Prerequisite:** CED 115

**MSO 124 Advanced Access for Office Professionals 1 Cr Hr**

Upon completion of this course students should understand the basic and advanced concepts of Access. Students should be able to pass the Microsoft Access Certification Exam.

**Co/Prerequisite:** CED115

**MTH 010 Basic Arithmetic** **3 Cr Hrs**

Basic Arithmetic is a course designed to provide students with basic arithmetic computational skills including basic decimals, fractions, ratios and proportions and percent's. Computation by scientific calculator will be introduced, but emphasis will be placed on computation by hand. This course does not count toward AS, AA, AGS or AAS degrees to fulfill a math requirement.

**MTH 020 Math Fundamentals** **3 Cr Hrs**

This course will enable the student to gain confidence with the use of basic arithmetic, variables, negative numbers, algebraic expressions, and techniques for solving equations and provide students with the skills necessary to be successful in their math courses. The course is designed to identify the student's specific learning style, provide note taking/test taking techniques, and offer math preparation strategies. This course does not count toward the A.A., A.S., A.A.S., or A.G. S. degree.

**MTH 025 PACER Mathematics I** **3 Cr Hrs**

To provide 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 equivalent to MTH020 - Math Fundamentals. This course does not count toward the A.A, A.S, A.A.S, or A.G.S degree.

**MTH 030 Elementary Algebra** **3 Cr Hrs**

In this course students will learn to interpret mathematical symbols and notation, recognize and use properties of real numbers, recognize and perform basic operations on polynomials, solve linear and quadratic equations and graph linear equations. This course does not count toward AS, AA, AGS or AAS degrees.

**Co/Prerequisite:** MTH 020 or MTH 025

**MTH 035 PACER Mathematics II** **3 Cr Hrs**

To provide 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 started in PACER Mathematics I. This course does not count toward the A.A, A.S, A.A.S, or A.G.S degree.

**Co/Prerequisite:** MTH 025

**MTH 101 Intermediate Algebra** **3 Cr Hrs**

In this course students will learn to interpret mathematical symbols and notation, simplify algebraic expressions, solve equations and word problems involving linear and quadratic polynomials, perform operations on rational and radical expressions, and graph linear and quadratic functions.

**Co/Prerequisite:** MTH 030 or MTH 035

**MTH 102 Intermediate Algebra With Review** **5 Cr Hrs**

In addition to the topics covered in MTH 030 students will simplify algebraic expressions, solve equations and word problems involving linear and quadratic polynomials, perform operations on rational and radical expressions, and graph linear and quadratic functions.

**Co/Prerequisite:** MTh 020 or MTH 025

**MTH 105 PACER Mathematics III** **3 Cr Hrs**

To provide 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. Coursework completed in PACER Mathematics II and PACER Mathematics III is equivalent to MTH101 - Intermediate Algebra.

**Co/Prerequisite:** MTH 035

**MTH111 College Algebra with Review** **5 Cr Hrs**

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.

**Co/Prerequisite:** MTH 101, 102

**MTH 112 College Algebra** **3 Cr Hrs**

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. **Co/Prerequisite:** MTH 101 and 102 or MTH 105

**MTH 113 Trigonometry** **3 Cr Hrs**

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.

**Co/Prerequisite:** MTH 111, 112

**MTH 115 Pre-Calculus Mathematics** **5 Cr Hrs**

This course will enable the student to develop and apply models using linear, polynomial, rational, logarithmic, exponential, and trigonometric functions.

**Co/Prerequisite:** MTH 101 and 102 or MTH 105

**MTH 120 Elementary Statistics****3 Cr Hrs**

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.

**Co/Prerequisite:** MTH 112 or 115

**MTH 121 Elementary Statistics Lab with Excel****1 Cr Hr**

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.

**Co/Prerequisite:** MTH 120

**MTH 125 Calculus I****5 Cr Hrs**

This course will enable the student to solve problems involving limits, derivatives and some types of definite and indefinite integrals both analytically and graphically, and use them in physical applications.

**Co/Prerequisite:** MTH 113 or 115

**MTH 150 Calculus II****5 Cr Hrs**

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.

**Co/Prerequisite:** MTH 125

**N****NDT 100 Penetrant Inspection****2 Cr Hrs**

Students 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 parallels lecture materials from the classroom.

**NDT 101 Magnetic Particle Testing Method for NDT****3 Cr Hrs**

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.

**NDT 102 45 Hour Radiation Safety** **3 Cr Hrs**

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.

**NDT 103 Radiographic Testing Method II** **3 Cr Hrs**

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.

**Co/Prerequisite:** NDT102

**NDT 105 Computed Radiographic Imaging** **3 Cr Hrs**

This course provides students with the knowledge and skills needed to utilize computed radiographic imaging materials and equipment in the manufacturing, aerospace, transportation, energy, and refinery environment. Students will learn to utilize the different type's radiographic imaging equipment, measuring tools, imaging enhancing devices, and storage and transfer functions. Students will learn to operate computer radiography equipment and perform operator maintenance and process controls. Upon completion of the course the student will be able to perform all function of computed radiographic imaging to industry standards.

**Co/Prerequisite:** NDT 102, 103

**NDT 110 Eddy Current Level I** **3 Cr Hrs**

In this course students will master the competencies associated with electromagnetic (Eddy Current) testing at with 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.

**NDT 111 Eddy Current Level II** **3 Cr Hrs**

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.

**Co/Prerequisite:** NDT110

**NDT 112 Ultrasonic Testing Method – Level I** **3 Cr Hrs**

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.

**NDT 113 Ultrasonic Testing Method – Level II** **3 Cr Hrs**

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.

**Co/Prerequisite:** NDT112

**NDT 114 Visual Inspection** **3 Cr Hrs**

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.

**NDT 115 Introduction to Ultrasonic C-Scan & Phased Array** **3 Cr Hrs**

This course provides students with the knowledge and skills needed to utilize Ultrasonic C-Scan and Phased Array inspection materials and equipment in the manufacturing, aerospace, transportation, energy, and refinery environment. Students will learn to utilize the different type's Ultrasonic C-Scan and Phased Array materials and equipment, interpret the test results and apply those to industry-specific scenarios.

**Co/Prerequisite:** NDT112, 113

**NDT 116 Bond Testing for NDT** **2 Cr Hrs**

This course is designed to provide students with the classroom and laboratory experience which will prepare them to perform bond testing on composite and conventional aviation parts/assemblies. Topics will include materials, equipment and bond testing methods. Laboratory experiences will include selecting and performing bond testing on various types of composite and mechanical parts/assemblies.

**Co/Prerequisite:** NDT110, 112

**NDT 117 Assembly Overview for NDT** **3 Cr Hrs**

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.

**NDT 120 Ultrasonic Phased Array II** **2 Cr Hrs**

This course provides students with the knowledge and skills needed to utilize Ultrasonic Phased Array inspection materials and equipment in the manufacturing, aerospace, transportation, energy, and refinery environment. Students will learn to utilize the different type's Ultrasonic Phased Array materials and equipment, interpret the test results and apply those results to industry-specific scenarios. Students will master techniques for the phased array shear wave inspection of welds to ASTM, ASME, and Aviation standards. Students will learn to display inspection results in A-Scan, S-Scan, and C-Scan formats simultaneously while using overlays for correct defect identification and location.

**Co/Prerequisite:** NDT112, 113

**NDT 125 Phased Array Time of Flight Diffraction (TOFD) 2 Cr Hrs**

This course provides students with the knowledge and skills needed to utilize Ultrasonic Time of Flight Diffraction (TOFD) technique materials and equipment in the manufacturing, aerospace, transportation, energy, and refinery environment. Students will learn to utilize the different type's TOFD materials and equipment, interpret the test results, size internal flaws, and apply those results to industry-specific scenarios. Students who complete this course should have sufficient background to utilize the Ultrasonic Phased Array TOFD technique used in many industries.

**Co/Prerequisite:** NDT112, 113

**NDT 150 Vibration Analysis Level I 3 Cr Hrs**

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 fundamental of analysis.

**Co/Prerequisite:** MTH 020

**NDT 151 Vibration Analysis Level II 3 Cr Hrs**

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.

**Co/Prerequisite:** MTH 112, NDT 150

**NDT 152 Vibration Analysis Level III 3 Cr Hrs**

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.

**Co/Prerequisite:** MTH 112, NDT 151

**NDT 155 Thermography Level I 3 Cr Hrs**

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, radiosity. 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.



**NDT 156 Thermography Level II**

**3 Cr Hrs**

This course expands upon the topics covered in Thermography I 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.

**Co/Prerequisite:** NDT 155

**NDT 157 Thermography Level III**

**3 Cr Hrs**

Thermography III is designed to provide the student with the ability to design or manage an infrared program, to evaluate outside infrared services, to integrate other predictive technologies into their program, and to provide in-depth analysis to an existing infrared program. A level III thermographer may also be called upon to provide on-the-job training to new hires within a company.

**Co/Prerequisite:** NDT 156

**NDT 160 Acoustic Emission Testing Level I**

**3 Cr Hrs**

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.

**NDT 165 Machine Lubrication and Analysis I**

**3 Cr Hrs**

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.

**NDT 166 Machine Lubrication and Analysis II**

**3 Cr Hrs**

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.

**Co/Prerequisite:** NDT 165

**NDT 167 Machine Lubrication and Analysis III****3 Cr Hrs**

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.

**Co/Prerequisite:** NDT 166

**NDT 170 Electrical Motor Testing****2 Cr Hrs**

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.

**O****OPM 100 Lean Sigma****3 Cr Hrs**

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.

**OPM 105 Operations Management for Organizational Success****3 Cr Hrs**

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.

**OPM 110 Introduction to Supply Chain Management****3 Cr Hrs**

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.

**OPM 115 Introduction to Project Management****3 Cr Hrs**

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 today's world. Mastery of key tools and concepts could give you a significant competitive advantage in the marketplace.

**ORI 005 Manufacturing Orientation****3 Cr Hrs**

This course is designed to provide students with the basic knowledge they will need to be successful students in the General Aviation and Manufacturing Programs at WATC. The topics include WATC student systems orientation, introduction to WATC grant opportunities, overview of policy and procedures in the general aviation and manufacturing programs, introduction to the NCAT facility and personnel as well as time to complete required testing.

**P****PCT 100 EKG for Healthcare Providers****4 Cr Hr**

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.

**PCT 105 Dementia Care****4 Cr Hr**

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.

**PCT 110 Clinical Procedures** **4 Cr Hr**

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.

**PNA 101 IV Therapy for LPNs** **3 Cr Hr**

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.

**PNA 105 Adult Learning Principles for Health Careers** **2 Cr Hr**

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.

**Co/Prerequisite:** Registered Nurse Licensure

**PDV 101 Learning Strategies** **3 Cr Hr**

This course is designed to help the student learn effective study skills that enable the student to be academically successful. The student will learn how to make application of these skills in a course of study. The course will cover time management, goal setting, listening, note taking, test strategies, and online learning. It is recommended any student who has a GPA of 2.0 or lower upon initial enrollment or after his/her first semester of college course work enroll in the class. This course does not count toward an A.S., A.A., A.G.S., or A.A.S. degree.

**PDV 105 Global Professional Standards** **2 Cr Hrs**

This course provides a study of human relations and professional development in today's rapidly changing world that prepares students for living and working in a complex society. Topics include: human relations skills, job acquisition skills, job retention skills, job advancement skills, and professional image skills.

**PED 110 Lifetime Fitness** **1 Cr Hr**

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.

**PHL110 Ethics** **3 Cr Hrs**

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.

**PHL115 Logic****3 Cr Hrs**

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.

**PHS 110 Physical Science****5 Cr Hrs**

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.

**PHS 115 Introductory Astronomy****5 Cr Hrs**

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).

**PHS 120 General Physics I****5 Cr Hrs**

Topics include mechanics — linear motion, rotational motion, force, work, energy, momentum and conservation principles; heat-temperature, ideal gas, energy 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.

**Co/Prerequisite:** MTH 112, 113

**PHS 125 General Physics II****5 Cr Hrs**

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. **Co/Prerequisite:** PHS 120

**PHR 105 Negotiations and Relationship Management****3 Cr Hrs**

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.

**PIM 100 Introduction to Materials Management 2 Cr Hrs**

This introductory course describes the basics of supply chain management, manufacturing planning and control systems, purchasing, and physical distribution. Topics of performance metrics ERP, supply chain approaches and implications, lean production fundamentals, and basic scheduling rules are discussed. Demand management, sales and operations planning, and master scheduling rules are examined in-depth.

**PIM 105 Basics of Supply Chain Management 2 Cr Hrs**

This course describes the basics of supply chain management, manufacturing planning and control systems, purchasing, and physical distribution. This course will explain performance metrics, ERP, supply chain approaches and implications, lean production fundamentals, and basic scheduling rules. Topics of demand management, sales and operations planning, and master scheduling are examined in-depth.

**PIM 110 Master Planning of Resources 2 Cr Hrs**

The topics of demand management, sales and operations planning, and master scheduling are examined in-depth. Both supply and demand planning for mid-to long-term independent demand are discussed. Priority planning and capacity planning issues are addressed.

**Co/Prerequisite:** PIM 105

**PIM 115 Detailed Scheduling & Planning 2 Cr Hrs**

The course will include inventory management, material requirements planning, capacity requirements planning, procurement, and supplier relationships.

**Co/Prerequisite:** PIM 110

**PIM 120 Execution & Control of Operations 2 Cr Hrs**

The principles, approaches, and techniques needed to schedule, control, measure, and evaluate the effectiveness of production operations are covered. A broad range of production operations are reviewed including project, batch, line, continuous, and remanufacturing environments.

**Co/Prerequisite:** PIM 115

**PIM 125 Strategic Management of Resources 2 Cr Hrs**

This course covers strategic planning and implementation and describes how market requirements drive the resources and processes of an organization. This course also explores the relationship among existing and emerging processes and technologies to manufacturing strategy and supply chain related functions.

**Co/Prerequisite:** PIM 120

**PNR 120 KSPN Foundations of Nursing** **4 Cr Hrs**

This course utilizes the nursing standards of practice based on principles of biology, psychosocial, spiritual and cultural to meet the needs of clients throughout the lifespan. Emphasis is placed on basic nursing skills, patient safety and therapeutic communication. Concepts and skills are enhanced in subsequent courses.

**Co/Prerequisite:** ALH 110; BIO 150; PSY 101, 120

**PNR 121 KSPN Foundations of Nursing Clinical** **2 Cr Hrs**

This course explores the art and science of nursing in this clinical course. Emphasis is placed on the nursing process, cultural and spiritual awareness, communication, data collection, performance of basic nursing skills, and documentation. Principles of safe medication administration are introduced.

**Co/Prerequisite:** PNR120, 122, 123, 124

**PNR 122 KSPN Pharmacology** **3 Cr Hrs**

This course introduces the principles of pharmacology, drug classifications, and the effects of selected medications on the human body. The nursing process is used as the framework for ensuring safe and effective nursing care for clients across the lifespan.

**Co/Prerequisite:** PNR120, 121,123

**PNR 123 KSPN Medical Surgical Nursing I** **4 Cr Hrs**

This course focuses on the effect of disorders of selected systems throughout the lifespan and applies the nursing process in meeting basic needs. Health promotion and maintenance, rehabilitation and continuity of care are emphasized. The role of the practical nurse is incorporated throughout.

**Co/Prerequisite:** PNR 120, 121, 122, 124

**PNR 124 KSPN Medical Surgical Nursing I Clinical** **3 Cr Hrs**

Simulated and actual care situation of selected systems throughout the life span, utilizing acute and long-term care settings. An emphasis is placed on critical thinking and clinical decisionmaking skills.

**Co/Prerequisite:** PNR 120, 121, 122, 123

**PNR 126 KSPN Medical Surgical Nursing II** **4 Cr Hrs**

This course focuses on the effect of disorders of selected systems throughout the lifespan using the nursing process in meeting basic needs. Prevention, rehabilitation and continuity of care are emphasized. The role of the practical nurse is incorporated throughout.

**Co/Prerequisite:** PNR 120, 121, 122, 123, 124, 127, 130, 131, 132, 134, 135

**PNR 127 KSPN Medical Surgical Nursing II Clinical 3 Cr Hrs**

This experience uses simulated and actual care situations of selected systems throughout the lifespan, utilizing acute and long-term care settings. An emphasis is placed on critical thinking and clinical decision-making skill development. Principles of leadership for the practical nurse will be implemented, as well as multi-task management skills for transition as a practical nurse.

**Co/Prerequisite:** PNR 120, 121, 122, 123, 124, 126, 130, 131, 132, 134, 135

**PNR 130 KSPN Maternal Child Nursing 2 Cr Hrs**

This course focuses on pre- and post-natal maternal nursing care, as well as, the care of children from infancy to adolescence. Emphasis is given to normal reproduction and frequently occurring biological, cultural, spiritual and psychosocial needs of the child-bearing and child-rearing family.

**Co/Prerequisite:** PNR 120, 121, 122, 123, 124, 126, 131, 132, 134, 135

**PNR 131 KSPN Maternal Child Nursing Clinical 1 Cr Hrs**

This clinical course applies concepts from Maternal Child I. Emphasis is placed on the nursing process and meeting the basic needs of the maternal child client.

**Co/Prerequisite:** PNR 120, 121, 122, 123, 124, 126, 130, 132, 134, 135

**PNR 132 KSPN Gerontology Nursing 2 Cr Hrs**

This course is designed to explore issues related to the aging adult using the nursing process as the organizing framework. Also discussed are the impact of ageism, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients.

**Co/Prerequisite:** PNR 120, 121, 122, 123, 124

**PNR 134 Role Development 2 Cr Hr**

This course expands the leadership and management skills necessary for personal and career growth and development. Assignment, delegation, teamwork and conflict management are emphasized. Provides opportunities to acquire additional knowledge in areas of concern. Builds on areas of strength to improve chances of being successful on the National Council Licensure Examination (NCLEX- PN).

**Co/Prerequisite:** PNR 120, 121, 122, 123, 124

**PNR 135 KSPN Mental Health Nursing 2 Cr Hrs**

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 mental health client.

**Co/Prerequisite:** PNR 120, 121, 122, 123, 124



**PNR 136 Transition to Nursing** **2 Cr Hrs**

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.

**Co/Prerequisite:** ALH 110; BIO 150; PSY 101, 120

**PNR 170 Healthcare Practice Management** **3 Cr Hrs**

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.

**Co/Prerequisite:** PNR 120, 121, 122, 123, 124, 126, 127, 130, 131, 132, 134, 135, 136

**PNR 175 Healthcare Management Research** **4 Cr Hrs**

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.

**Co/Prerequisite:** PNR 120, 121, 122, 123, 124, 126, 127, 130, 131, 132, 134, 135, 136

**PNR 180 Healthcare Issues** **3 Cr Hrs**

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.

**Co/Prerequisite:** PNR 120, 121, 122, 123, 124, 126, 127, 130, 131, 132, 134, 135, 136

**POL 101 American Government** **3 Cr Hrs**

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.

**PSS 100 Six Sigma Yellow Belt** **1 Cr Hr**

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.

**PSS 101 Six Sigma Green Belt Methods** **3 Cr Hrs**

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.

**PSS 105 Six Sigma Green Belt Statistics** **3 Cr Hrs**

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, using data simulation, screening data for errors, manipulating data, performing transformations and focusing on the use of the computer and statistical software as a valuable productivity and data analysis tool.

**Co/Prerequisite:** PSS101

**PSS 115 Six Sigma Black Belt Methods** **3 Cr Hrs**

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.

**Co/Prerequisite:** PSS101, 105

**PSS 120 Six Sigma Black Belt Experimentation & Transfer** **3 Cr Hrs**

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.

**Co/Prerequisite:** PSS115

**PSY 101 General Psychology** **3 Cr Hrs**

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.

**PSY 110 Child Psychology** **3 Cr Hrs**

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.

**Co/Prerequisite:** PSY 101

**PSY 120 Developmental Psychology****3 Cr Hrs**

A study of individual development from conception through death to enable students to apply the knowledge they gain about the general areas of biological, 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.

**Co/Prerequisite:** PSY101

**Q****R****REL 101 New Testament****3 Cr Hrs**

This course is an introduction to history, literature and culture that gave rise to the New Testament from an objective and analytical approach.

**ROB 100 Introduction to Robotics****3 Cr Hrs**

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.

**ROB 101 Manufacturing Control & Work Cell Interfacing****2 Cr Hr**

This course studies open and closed loop controls and cell level interfacing. Emphasizes human factors related to automated systems. Topics include: process control; sensors and interfacing; fluid pressure and level measurement; fluid flow instrument; instruments for temperature measurement; instruments for mechanical measurement; pneumatic controls; cell level interfacing; automatic control systems application; and human interface issues of operator training, acceptance, and safety.

**Co/Prerequisite:** ROB 100, IND 106

**ROB 102 Work Cell Design Laboratory** **1 Cr Hrs**

This course allows students to work in instructor-supervised teams, assembling and operating an automated production system's cell. Students will select equipment, write specifications, design fixtures and interconnects, integrate systems/provide interfaces, and operate the assigned system. Topics include: work cell requirement analysis, work cell specifications, work cell assembly, work cell programming, work cell debugging/troubleshooting, and prototype or demonstration work cell operation.

**Co/Prerequisite:** ROB101

**ROB 103 Applied Robotics Lab I** **3 Cr Hrs**

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.

**Co/Prerequisite:** ROB101

**ROB 104 Robotics Simulation** **2 Cr Hrs**

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.

**Co/Prerequisite:** ROB100 or departmental approval

**ROB 106 Robotics Controller Maintenance** **3 Cr Hrs**

This course will provide the student with basic skills and techniques used in the maintenance and repair of robotic/automated equipment.

**Co/Prerequisite:** ROB100, IND106, or departmental approval

**ROB 110 Applied Robotics Lab II** **3 Cr Hr**

In this course students will expand on their experiences from Applied Robotics Lab I. Students will further enhance the robotic applications and integration of PLC's and PC's to robot controllers.

**Co/Prerequisite:** ROB102, 103

**ROB 111 Advanced Robot Controller Programming** **2 Cr Hrs**

This course provides an opportunity for students to adapt robotic systems to specific manufacturing applications. Students will learn the file manipulation required to understand and program a complete robotic application.

**Co/Prerequisite:** ROB104 or departmental approval

**ROB 125 Advanced Industrial Workcell Programming 3 Cr Hrs**

This course offers advanced skills and knowledge that are required to integrate, operate, program, troubleshoot, and maintain typical industrial work-cells that consist of robot controllers, programmable logic controllers (PLCs), and other support mechanisms. The course contents are based on the lower level robotics and electromechanical courses offered by the WATC robotics program.

**Co/Prerequisite:** ROB110, 111; IND131; or departmental approval

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**SAF 101 Safety Orientation/OSHA 10 1 Cr Hrs**

This course provides a fundamental understanding of OSHA Safety for the Construction Industry. Students who successfully complete the course will be issued a Department of Labor (DOL) 10 hour card.

**SGT 101 Introduction to Surgical Technology 4 Cr Hrs**

This course introduces the role and functions of proper documentation, post and preoperative 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.

**Co/Prerequisite:** BIO 150, 160; CPR 101

**SGT 107 Pharmacology for Surgical Technology 3 Cr Hrs**

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.

**Co/Prerequisite:** SGT 101, 115, 120, 140

**SGT 115 Surgical Procedures I 4 Cr Hrs**

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.

**Co/Prerequisite:** SGT 120

**SGT 119 Surgical Technology - Clinical Experience I** **4 Cr Hr**

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.

**Co/Prerequisite:** SGT 101, 115, 120, 140

**SGT 120 Principles and Practices in Surgical Technology** **5 Cr Hrs**

Presents concepts necessary to prepare students for clinical experience. Aseptic technique and supplies and equipment are major components of this course.

**Co/Prerequisite:** BIO 150, 160 ; CPR 101

**SGT 125 Surgical Procedures II** **5 Cr Hrs**

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.

**Co/Prerequisite:** SGT 101, 115, 120, 140

**SGT 129 Surgical Technology Clinical Experience II** **5 Cr Hrs**

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.

**Co/Prerequisite:** SGT 107, 119, 125

**SGT 130 Surgical Technology Clinical Experience III** **4 Cr Hrs**

Students are assigned to supervised, non-remunerative clinical practice in hospital operating rooms approximately 24-27 hours per week. Emphasis is placed on basic, intermediate, and advanced surgical interventions. Includes rotations through labor and delivery, cardiac catheterization lab, and post anesthesia care unit.

**Co/Prerequisite:** SGT 129

**SGT 140 Principles & Practices in Surgical Technology Lab** **3 Cr Hrs**

Students will demonstrate concepts necessary to prepare students for clinical experience. Aseptic technique and supplies and equipment are major components of this course.

**Co/Prerequisite:** SGT 120

**SGT 145 Surgical Technologist Exam Review** **1 Cr Hr**

This course provides a comprehensive review of surgical technology concepts and practical preparation for the national certification examination.

**Co/Prerequisite:** SGT 101, 107, 115, 119, 120, 125, 129, 130, 140

**SOC 101 Principles of Sociology****3 Cr Hrs**

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. It includes the study of how social relationships are created, maintained and changed.

**SPH 101 Public Speaking****3 Cr Hrs**

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.

**SPH 111 Interpersonal Communication****3 Cr Hrs**

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.

**T****TAC 131 Structural Analysis & Damage I****2 Cr Hr**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will: identify measuring procedures; analyze the basic structural damage conditions; identify the safety requirements pertaining to structural damage repair; analyze frame repair methods; analyze unibody inspection and measurement and identify procedures of welding for structural repair.

**TAC 132 Structural Damage Analysis & Damage II****2 Cr Hrs**

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: apply safety requirements pertaining to structural damage repair; analyze frame inspection and repair procedures; determine direct and indirect damage for structural repair; analyze unibody inspection measurement, and repair procedures; perform welding techniques for structural repair; and identify cutting procedures for structural repair.

**Co/Prerequisite:** TAC131

**TAC 133 Structural Analysis & Damage III** **3 Cr Hrs**

Through a variety of classroom and/or shop learning and assessment activities, students in this course will; apply safety requirements pertaining to structural damage repair; perform welding and cutting techniques for structural repair; diagnose unibody direct and indirect damage; apply unibody inspection and measurement procedures; apply unibody repair procedures; apply frame inspection and measurement procedures; apply frame repair procedures; and remove fixed glass.  
**Co/Prerequisite:** TAC132

**TAC 134 Structural Analysis & Damage IV** **3 Cr Hrs**

Through a variety of classroom and lab/shop learning and assessment activities, students in this course will: apply safety requirements pertaining to structural damage repair; perform advanced welding and cutting techniques for structural repair; perform inspection and measurement of unibody for structural repair; repair unibody direct and indirect damage; perform frame inspection and measurement procedures; repair frame to industry standards; and remove and install fixed glass.

**Co/Prerequisite:** TAC133

**TAC 141 Paint & Refinishing I** **3 Cr Hrs**

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: identify safety and personal health hazards according to OSHA guidelines and the “Right to Know” law; determine the different types of substrates and sanding materials relevant to autobody surface preparation; identify the process to clean and prepare a substrate for paint; distinguish between the properties, uses and manufacturer specifications of metal treatments and primers; distinguish among the various types of spray guns and equipment; explore various paint codes and specifications for use; identify the various paint systems; explore the types of paint defects; distinguish between damage and non-damage related corrosion; and identify final detail procedures.

**TAC 142 Paint & Refinishing II** **3 Cr Hrs**

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: select proper personal protective equipment; perform proper shop operations according to OSHA guidelines; remove paint coatings; apply corrosion resistant coatings; demonstrate proper spray gun operation and cleaning procedures; select proper painting and substrate materials for projects; analyze paint defects, causes and cures; repair paint defects; measure paint mil thickness; and determine final detail procedures for given projects.

**Co/Prerequisite:** TAC141



**TAC 143 Paint & Refinishing III****3 Cr Hrs**

Through a variety of learning and/or shop/lab learning and assessment activities, students in this course will: identify safety and personal health hazards according to OSHA guidelines and the “right to Know” law; determine the different types of substrates and sanding materials relevant to autobody surface preparation; identify the process to clean and prepare a substrate for paint; distinguish between the properties, uses and manufacturer specifications of metal treatments and primers; distinguish among the various types of spray guns and equipment; explore various paint codes and specifications for use; identify the various paint systems; explore the types of paint defects; distinguish between damage and non-damage related corrosion; and identify final detail procedures.

**Co/Prerequisite:** TAC142**TAC 144 Paint & Refinishing IV****4 Cr Hrs**

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: apply exemplary safety procedures in all areas of auto body painting and refinishing; perform proper cleaning procedures for a refinish; prepare adjacent panels for blending; prepare plastic panels for refinishing; protect all non-finished areas of vehicle; operate high and low volume/pressure spray gun operations for painting and refinishing; perform all paint system applications on an automobile; apply appropriate paint color matching and mixing procedures; tint color using formula to achieve a blendable match; explore the causes, effects and correction of buffing-related imperfections; explore the causes, effects and correction of pigment flotation; measure mil thickness; apply decals, transfers, tapes, woodgrains, pinstripes to an automobile; apply buffing and polishing techniques to remove defects; apply cleaning techniques to automobile interior, exterior, glass and body openings; and remove overspray.

**Co/Prerequisite:** TAC143**TAC 151 Nonstructural Analysis & Damage I****4 Cr Hrs**

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: explore the components of safety pertaining to auto collision and repair; explore the parts and construction of vehicles; explore opportunities in the auto collision industry; identify metal straightening techniques; identify the application and use of body fillers; demonstrate proper use, set-up and storage of welding equipment; distinguish between weldable and non-weldable materials; demonstrate fundamental industry standard recommended welds; identify plastics and adhesives used in automotive industry; explain the general purpose of damage, estimation and repair orders; explore the processes required for outer body panel repairs, replacements and adjustments; and demonstrate fundamental cutting procedures.

**TAC 152 Nonstructural Analysis & Damage II****4 Cr Hrs**

Through a variety of classroom and /or lab/shop learning and assessment activities, students in this course will: identify trim and hardware to be protected; examine what to consider when working with movable glass; perform outer body panel repairs; perform outer body replacements and adjustments; perform metal straightening techniques; perform body filing techniques; perform metal finishing techniques; use welding procedures in non-structural damage repair; distinguish between mechanical and electrical components; apply safety standards for the collision repair industry; use cutting procedures in non-structural damage repair; and determine procedures necessary for working with plastics and adhesives.

**Co/Prerequisite:** TAC151**TAC 153 Nonstructural Analysis & Damage III****4 Cr Hrs**

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will: remove and install trim and hardware; determine process and procedures necessary for movable glass repair; repair outer body panel; replace and adjust outer body panels; remove and install mechanical and electrical components; demonstrate safety protocol appropriate for the auto repair setting; perform intermediate welding skills on non-structural damage repairs; and perform plastic and adhesive repairs.

**Co/Prerequisite:** TAC152**TAC 154 Nonstructural Analysis & Damage IV****5 Cr Hrs**

Through a variety of classroom and shop/lab learning and assessment activities, students in this course will: remove trim and hardware; install trim and hardware; repair movable glass; protect adjacent body panels; repair outer body panel; replace outer body panels; adjust outer body panels; replace mechanical and electrical components; demonstrate safety protocol appropriate for the auto repair setting, perform welding skills on non-structural damage repairs; and perform plastic and adhesive repairs.

**Co/Prerequisite:** TAC153**TAC 160 Mechanical & Electrical****3 Cr Hrs**

Through classroom and/or lab/shop learning and assessment activities, in this course students will: determine how to diagnose steering and suspension; diagnose electrical concerns; complete headlamp and fog/driving lamp assemblies and repairs; demonstrate selfgrounding procedures for handling electronic components; determine diagnosis, inspection and service needs for brake system hydraulic components; examine components of heating and air conditioning systems; determine the inspection, service and repair needs for collision damaged cooling system components; distinguish between the under car components and systems; and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

### **TAC 161 Mechanical & Electrical**

**3 Cr Hrs**

Through classroom and/or lab/shop learning and assessment activities, in this course students will: determine how to diagnose steering and suspension; diagnose electrical concerns; complete headlamp and fog/driving lamp assemblies and repairs; demonstrate self-grounding procedures for handling electronic components; determine diagnosis, inspection and service needs for brake system hydraulic components; examine components of heating and air conditioning systems; determine the inspection, service and repair needs for collision damaged cooling system components; distinguish between the under car components and systems; and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

### **TAS 121 Engine Repair**

**4 Cr Hrs**

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.

### **TAS 124 Electrical I**

**3 Cr Hrs**

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.

### **TAS 125 Electrical II**

**5 Cr Hrs**

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.

**Co/Prerequisite:** TAS124

**TAS 126 Manual Transmission/Transaxle & Drive Train** **4 Cr Hrs**

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.

**TAS 127 Automatic Transmission Repair** **4 Cr Hrs**

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.

**TAS 128 Heating & Air Conditioning** **4 Cr Hrs**

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.

**TAS 131 Engine Performance I** **3 Cr Hrs**

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.

**TAS 132 Engine Performance II** **5 Cr Hrs**

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.

**Co/Prerequisite:** TAS131

**TAS 133 Brakes I** **3 Cr Hrs**

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.

**TAS 134 Brakes II****1 Cr Hr**

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.

**Co/Prerequisite:** TAS133

**TAS 135 Automotive Computer Systems****3 Cr Hr**

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.

**Co/Prerequisite:** TAS 125, 132

**TAS 136 Suspension and Steering I****3 Cr Hrs**

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.

**TAS 137 Suspension and Steering II****2 Cr Hrs**

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.

**Co/Prerequisite:** TAS 136

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