



Aerospace Manufacturing Technology

Student Learning Outcomes

- 1 Communication- The student will demonstrate the ability to communicate effectively using written and/or oral communication.
- 2 Information Literacy- The student will recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.
- 3 Problem Solving- The student will demonstrate the ability to analyze information and solve problems.
- 4 Workplace Skills - Demonstrates a mastery of workplace skills/soft skills, exhibits initiative, adapts to varied situations

Program Outcomes

- 1 Measure aircraft components using appropriate precision instrumentation
- 2 Install aircraft fasteners in a variety of aviation materials including sheet metal
- 3 Demonstrate the appropriate safety procedures and process used in building aircraft components
- 4 Utilize engineering drawings to assemble aircraft component
- 5 Assemble sheetmetal aircraft components
- 6 Identify the basic procedures and processes associated with aviation manufacturing
- 7 Demonstrate an understanding of the role of quality assurance systems in aviation manufacturing
- 8 Students will demonstrate inspection techniques utilized in aircraft systems and assemblies
- 9 Demonstrate electrical bonding techniques utilized in aircraft systems and assemblies
- 10 Apply knowledge of fractions, decimals, and percentages to solve real-world problems
- 11 Execute proactive employability strategies to develop and manage a professional career

Fall

Course #	Course Title	Credits	Function
AVC 104	Quality Control Concepts	1	Technical Studies
AVC 110	Safety/OSHA 10	1	Technical Studies
AVC 112	Blueprint Reading	2	Technical Studies
AVC 117	Hand & Power Tools	4	Technical Studies
AVC 120	Introduction to Sealing	1	Technical Studies
AVC 137	Precision Measuring	2	Technical Studies
AER 150	Assembly Overview I	3	Technical Studies
AER 157	Advanced Assembly	3	Technical Studies
MTH	Math Elective*	3	General Studies

Spring

Course #	Course Title	Credits	Function
	Technical Electives**	10	Elective
	Humanities Elective *	3	General Studies
	Social Science Elective*	3	General Studies

Summer

Course #	Course Title	Credits	Function
	Technical Electives**	6	Elective
	Communication Elective *	3	General Studies

Fall

Course #	Course Title	Credits	Function
ENG 101	Technical Electives**	12	Elective
ENG 101	Composition I*	3	General Studies

****Technical Electives**

Course #	Course Title	Credits	Function
ACP 100	Introduction to Coatings & Paint Technology		Elective
ACP 101	Surface Preparation & Coatings		Elective
ACP 104	Specialized Coating Processes		Elective
AER 106	Aerospace Manufacturing Tooling Orientation		Elective
AER 111	Tap and Die		Elective

AER 115	Aerostructures Assembly		Elective
AER 116	Hand Power Tools for Aerospace Tooling		Elective
AER 122	Introduction to Light Sport Aircraft, Structural Assembly I, Flight Surfaces		Elective
AER 126	Tooling Capstone		Elective
AER 135	Quality Assurance Orientation		Elective
AER 150	Assembly Overview I		Elective
AER 157	Advanced Assembly		Elective
AER 162	Structural Assembly II, Tailcone & Empennage		Elective
AER 165	Electrical Assembly Mechanic Orientation		Elective
AER 166	Electrical Hand Tools		Elective
AER 167	Drilling & Riveting/Ground Stud Installation		Elective
AER 168	Wire Installation Drawings		Elective
AER 169	Crimping & Cables		Elective
AER 170	Fiber Optics for Aerospace		Elective
AER 172	Structural Assembly III, Fuselage Center Section		Elective
AER 175	Wire Bundle Basics		Elective
AER 177	Structural Assembly IV, Bulkheads & Support Structures		Elective
AER 180	Soldering		Elective
AER 182	System Assembly V, Fuel System & Flight Controls		Elective
AER 185	Wire Bundle Installation		Elective
AER 187	System Assembly VI, Landing Gear & Power Plant		Elective
AER 192	System Assembly VII, Avionics, Canopy, & Windows		Elective
AER 197	System Assembly VIII, Final Assembly & Systems Test		Elective
AVC 102	Precision Instruments		Elective
AVC 103	Geometric Dimensioning & Tolerancing		Elective
AVC 104	Quality Control Concepts		Elective
AVC 107	Fundamentals for Aerospace Manufacturing		Elective
AVC 108	Aircraft Systems & Components		Elective

AVC 110	Safety/OSHA 10		Elective
AVC 112	Blueprint Reading		Elective
AVC 117	Hand & Power Tools		Elective
AVC 125	Bonding and Grounding		Elective
AVC 127	Aviation Assembly Core		Elective
AVC 135	Hand Tools		Elective
AVC 140	Electrical Bonding & Grounding		Elective
AVC 145	Power Island		Elective
AVC 150	Human Factors		Elective
AVC 165	Technical Writing		Elective
AVC 170	Conflict Resolution		Elective
AVC 137	Precision Measuring		Elective
AVC 190	Aerospace Applied Learning		Elective
BUS 121	Business Communications		Elective
CFT 101	Introduction to Composites		Elective
CFT 106	Composite Finish Trim		Elective
CFT 112	Composite Assembly I		Elective
CFT 113	Composite Assembly II		Elective
CFT 107	Composite Assembly		Elective
CFT 130	Composite Fabrication Methods /Applications		Elective
CFT 135	Overview of Composite Inspection		Elective
CFT 140	Composite Inspection		Elective
CWG 110	Welding Applications		Elective
CWG 105	Welding Safety & Orientation		Elective
LEN 100	Lean for Operations		Elective
MCD 106	Precision Measuring		Elective
MCD 137	Introduction to 3D Printing		Elective
NDT 114	Visual Inspection		Elective
ROB 100	Introduction to Robotics		Elective

* **Kansas Systemwide General Education**

Technical Certificate, Aerospace Manufacturing Technology**Total Credits 31****Fall**

Course #	Course Title	Credits	Function
AER 115	Aerostructures Assembly	6	Technical Studies
AVC	Aviation Assembly Core**	7	Elective
MTH	Math Elective*	3	General Studies

Spring

Course #	Course Title	Credits	Function
AVC 103	Geometric Dimensioning & Tolerancing	1	Technical Studies
AVC 105	Aircraft Familiarization	1	Technical Studies
AVC 107	Fundamentals for Aerospace Manufacturing	1	Technical Studies
AVC 108	Aircraft Systems & Components	4	Technical Studies
AVC 117	Hand & Power Tools	4	Technical Studies
AVC 125	Bonding and Grounding	1	Technical Studies
AVC 150	Human Factors	1	Technical Studies
CFT 101	Introduction to Composites	2	Technical Studies

****Aviation Core**

Course #	Course Title	Credits	Function
AVC 127	Aviation Assembly Core - or all of the following courses		Elective
AVC 102	Precision Instruments		Elective
AVC 104	Quality Control Concepts		Elective
AVC 110	Safety/OSHA 10		Elective
AVC 112	Blueprint Reading		Elective
AVC 120	Introduction to Sealing		Elective
AVC 140	Electrical Bonding & Grounding		Elective

* **Kansas Systemwide General Education****Technical Certificate, Aviation Sheetmetal Assembly - CBE****Total Credits 17****Fall (CBE)**

Course #	Course Title	Credits	Function
AER 150	Assembly Overview I	3	Technical Studies
AER 157	Advanced Assembly	3	Technical Studies
AVC 104	Quality Control Concepts	1	Technical Studies

AVC 110	Safety/OSHA 10	1	Technical Studies
AVC 112	Blueprint Reading	2	Technical Studies
AVC 117	Hand & Power Tools	4	Technical Studies
AVC 137	Precision Measuring	2	Technical Studies
AVC 140	Electrical Bonding & Grounding	1	Technical Studies

Technical Certificate, Aviation Sheetmetal Assembly

Total Credits 17

Fall

Course #	Course Title	Credits	Function
AER 115	Aerostructures Assembly	6	Technical Studies
AVC 117	Hand & Power Tools	4	Technical Studies
AVC 127	Aviation Assembly Core	7	Technical Studies