



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 Identify the basic procedures and processes associated with manufacturing
- 2 Identify the basic metallurgical principles as they relate to manufacturing
- 3 Demonstrate advanced systems technology skills as they relate to manufacturing
- 4 Apply safe and approved practices in the workplace
- 5 Analyze, interpret, modify and prepare drawings used in the manufacturing process
- 6 Solve quality problems using process planning, technical knowledge, teamwork, mathematics, and critical thinking
- 7 Apply appropriate mathematical skills to solve real-world problems
- 8 Demonstrate the ability to utilize tools and equipment used in the manufacturing environment
- 9 Demonstrate the ability to safely operate manufacturing joining, cutting, and bending
- 10 Perform assembly tasks utilized in a wide range of manufacturing processes
- 11 Identify potential maintenance issues with basic production systems.
- 12 Demonstrate the basics of electrical wiring and AC/DC principles
- 13 Identify potential fluid system issues which will require maintenance personnel to correct
- 14 Perform basic PLC programming
- 15 Analyze and solve manufacturing production issues utilizing machine automation solutions

Fall

Course #	Course Title	Credits	Function
MNF 115	Forklift Operations	1	Technical Studies
MNF 113	Blueprint Basics For Manufacturing	2	Technical Studies
MNF 120	Manufacturing Processes & Production I	3	Technical Studies
AVC 104	Quality Control Concepts	1	Technical Studies
AVC 110	Safety/OSHA 10	1	Technical Studies
AVC 135	Hand Tools	1	Technical Studies
AVC 145	Power Island	1	Technical Studies
MMG 131	Metallurgy	1	Technical Studies

Spring

Course #	Course Title	Credits	Function
MNF 110	CNC Basics	2	Technical Studies
MNF 125	Maintenance Training	4	Technical Studies
MNF 130	Manufacturing Processes & Production II	3	Technical Studies
MNF 163	Production Assembly	3	Technical Studies
MCD 106	Precision Measuring	2	Technical Studies
MCD 137	Introduction to 3D Printing	2	Technical Studies
PDV 115	Work Ethics	2	General Studies

Summer

Course #	Course Title	Credits	Function
ENG 101	Composition I*	3	General Studies
	Social Science Elective*	3	General Studies

Fall

Course #	Course Title	Credits	Function
	Technical Electives**	8	Elective
	Communication Elective*	3	General Studies
MTH	Math Elective*	3	General Studies

Spring

Course #	Course Title	Credits	Function
	Technical Electives**	8	Elective
	Humanities Elective*	3	General Studies

****Technical Electives**

Course #	Course Title	Credits	Function
AER 150	Assembly Overview I		Elective
AER 157	Advanced Assembly		Elective
AVC 105	Aircraft Familiarization		Elective
CFT 101	Introduction to Composites		Elective
CFT 107	Composite Assembly		Elective
CFT 130	Composite Fabrication Methods /Applications		Elective
IND 109	Programmable Logic Controls		Elective
IND 122	AC/DC Circuits		Elective
IND 130	Mechanical Systems		Elective
IND 143	Electrical System Troubleshooting		Elective
IND 147	Fluid Power I		Elective
MMG 113	Print Reading		Elective
MMG 116	Quality Control & Inspection		Elective
MMG 135	Machining Fundamentals		Elective
MMG 155	CNC Lathe		Elective
MMG 160	CNC Milling I		Elective
MMG 156	CNC Operations		Elective
MNF 157	Lean/Six Sigma		Elective
MNF 175	Manufacturing Technology Applied Learning Experience		Elective
ROB 100	Introduction to Robotics		Elective

*** Kansas Systemwide General Education**

Technical Certificate, Manufacturing Technology**Total Credits 29****Fall**

Course #	Course Title	Credits	Function
MNF 115	Forklift Operations	1	Technical Studies
MNF 113	Blueprint Basics For Manufacturing	2	Technical Studies
MNF 120	Manufacturing Processes & Production I	3	Technical Studies
AVC 104	Quality Control Concepts	1	Technical Studies
AVC 110	Safety/OSHA 10	1	Technical Studies
AVC 135	Hand Tools	1	Technical Studies
AVC 145	Power Island	1	Technical Studies
MMG 131	Metallurgy	1	Technical Studies

Spring

Course #	Course Title	Credits	Function
MNF 110	CNC Basics	2	Technical Studies
MNF 125	Maintenance Training	4	Technical Studies
MNF 130	Manufacturing Processes & Production II	3	Technical Studies
MNF 163	Production Assembly	3	Technical Studies
MCD 106	Precision Measuring	2	Technical Studies
MCD 137	Introduction to 3D Printing	2	Technical Studies
PDV 115	Work Ethics	2	General Studies

Technical Certificate, Manufacturing Technology**Total Credits 37****Fall**

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MNF 113	Blueprint Basics For Manufacturing	2	Technical Studies
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AVC 104	Quality Control Concepts	1	Technical Studies
AVC 110	Safety/OSHA 10	1	Technical Studies
AVC 135	Hand Tools	1	Technical Studies
AVC 145	Power Island	1	Technical Studies
MMG 131	Metallurgy	1	Technical Studies

Spring

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MNF 110	CNC Basics	2	Technical Studies
MNF 125	Maintenance Training	4	Technical Studies
MNF 130	Manufacturing Processes & Production II	3	Technical Studies
MNF 163	Production Assembly	3	Technical Studies
MCD 106	Precision Measuring	2	Technical Studies
MCD 137	Introduction to 3D Printing	2	Technical Studies
PDV 115	Work Ethics	2	General Studies

Fall

Course #	Course Title	Credits	Function
	Technical Electives**	8	Elective

**Technical Electives

Course #	Course Title	Credits	Function
AER 150	Assembly Overview I		Elective
AER 157	Advanced Assembly		Elective
AVC 105	Aircraft Familiarization		Elective
CFT 101	Introduction to Composites		Elective
CFT 107	Composite Assembly		Elective
CFT 130	Composite Fabrication Methods /Applications		Elective
IND 109	Programmable Logic Controls		Elective
IND 122	AC/DC Circuits		Elective
IND 130	Mechanical Systems		Elective
IND 143	Electrical System Troubleshooting		Elective
IND 147	Fluid Power I		Elective
MMG 113	Print Reading		Elective
MMG 116	Quality Control & Inspection		Elective
MMG 135	Machining Fundamentals		Elective
MMG 155	CNC Lathe		Elective
MMG 160	CNC Milling I		Elective
MMG 156	CNC Operations		Elective
MNF 157	Lean/Six Sigma		Elective
MNF 175	Manufacturing Technology Applied Learning Experience		Elective

ROB 100	Introduction to Robotics		Elective
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Technical Certificate, Manufacturing Technology

Total Credits 45

Fall

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MNF 113	Blueprint Basics For Manufacturing	2	Technical Studies
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AVC 104	Quality Control Concepts	1	Technical Studies
AVC 110	Safety/OSHA 10	1	Technical Studies
AVC 135	Hand Tools	1	Technical Studies
AVC 145	Power Island	1	Technical Studies
MMG 131	Metallurgy	1	Technical Studies

Spring

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MNF 110	CNC Basics	2	Technical Studies
MNF 125	Maintenance Training	4	Technical Studies
MNF 130	Manufacturing Processes & Production II	3	Technical Studies
MNF 163	Production Assembly	3	Technical Studies
MCD 106	Precision Measuring	2	Technical Studies
MCD 137	Introduction to 3D Printing	2	Technical Studies
PDV 115	Work Ethics	2	General Studies

Fall

Course #	Course Title	Credits	Function
	Technical Electives**	16	Elective

****Technical Electives**

Course #	Course Title	Credits	Function
AER 150	Assembly Overview I		Elective
AER 157	Advanced Assembly		Elective
AVC 105	Aircraft Familiarization		Elective
CFT 101	Introduction to Composites		Elective
CFT 107	Composite Assembly		Elective

CFT 130	Composite Fabrication Methods /Applications		Elective
IND 109	Programmable Logic Controls		Elective
IND 122	AC/DC Circuits		Elective
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MMG 160	CNC Milling I		Elective
MMG 156	CNC Operations		Elective
MNF 157	Lean/Six Sigma		Elective
MNF 175	Manufacturing Technology Applied Learning Experience		Elective
ROB 100	Introduction to Robotics		Elective