



Machining Technology

(Machining & 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** Operate machine tool equipment commonly found in industry including manual and computer-controlled lathes, milling machines, drill presses and cutting machines
- 2** Manufacture parts from various materials in accordance with specifications from blueprints, electronic drawings and shop sketches
- 3** Solve quality problems using process planning, technical knowledge, teamwork, mathematics, and critical thinking
- 4** Apply safety principles in a work environment to minimize hazards and prevent losses to productivity
- 5** Demonstrate employability skills needed to obtain and retain employment in machine tool and related fields
- 6** Use CAD and CAM programs to design parts and program manufacturing machines

Associate of Applied Sciences, Machining Technology (Machining & Manufacturing Technology)

Fall			Total Credits 65
Course #	Course Title	Credits	Function
MMG 113	Print Reading	3	Technical Studies
MMG 116	Quality Control & Inspection	1	Technical Studies
MMG 131	Metallurgy	1	Technical Studies
MMG 135	Machining Fundamentals	3	Technical Studies
MMG 155	CNC Lathe	3	Technical Studies
MMG 156	CNC Operations	3	Technical Studies
MMG 160	CNC Milling I	3	Technical Studies
AVC 110	Safety/OSHA 10	1	Technical Studies
PDV 115	Work Ethics	2	General Studies

Spring			
Course #	Course Title	Credits	Function
MMG 130	Bench Work	1	Technical Studies
MMG 140	Metrology	4	Technical Studies
MMG 170	Mastercam Mill 2 Axis	4	Technical Studies
MCD 106	Precision Measuring	2	Technical Studies
MMG 184	Multi-Axis Milling	4	Technical Studies
ENG 101	Composition I*	3	General Studies

Summer			
Course #	Course Title	Credits	Function
	Social Science Elective*	3	General Studies
	Humanities Elective*	3	General Studies

Fall			
Course #	Course Title	Credits	Function
MMG 132	Machine Tool Processes	1	Technical Studies
MMG 154	Multi-Cell Operations	4	Technical Studies
MMG 164	Advanced Machining Processes	3	Technical Studies
MMG 173	G D & T for Machining	3	Technical Studies
MMG 180	Mastercam 4 & 5 Axis Mill	4	Technical Studies

Spring			
Course #	Course Title	Credits	Function

	Communication Elective*	3	General Studies
MTH	Math Elective*	3	General Studies

* **Kansas Systemwide General Education**

Technical Certificate, Multi Axis Machining (Machining & Manufacturing Technology)

Fall

Total Credits 53

Course #	Course Title	Credits	Function
MMG 113	Print Reading	3	Technical Studies
MMG 116	Quality Control & Inspection	1	Technical Studies
MMG 131	Metallurgy	1	Technical Studies
MMG 132	Machine Tool Processes	1	Technical Studies
MMG 135	Machining Fundamentals	3	Technical Studies
MMG 155	CNC Lathe	3	Technical Studies
MMG 156	CNC Operations	3	Technical Studies
MMG 160	CNC Milling I	3	Technical Studies
AVC 110	Safety/OSHA 10	1	Technical Studies
PDV 115	Work Ethics	2	General Studies
MTH	Math Elective*	3	General Studies

Spring

Course #	Course Title	Credits	Function
MMG 130	Bench Work	1	Technical Studies
MMG 140	Metrology	4	Technical Studies
MMG 170	Mastercam Mill 2 Axis	4	Technical Studies
MMG 184	Multi-Axis Milling	4	Technical Studies
MCD 106	Precision Measuring	2	Technical Studies

Fall

Course #	Course Title	Credits	Function
MMG 164	Advanced Machining Processes	3	Technical Studies
MMG 154	Multi-Cell Operations	4	Technical Studies
MMG 173	G D & T for Machining	3	Technical Studies
MMG 180	Mastercam 4 & 5 Axis Mill	4	Technical Studies

Technical Certificate, Machining Technology (Machining & Manufacturing Technology)

Fall **Total Credits 35**

Course #	Course Title	Credits	Function
MMG 113	Print Reading	3	Technical Studies
MMG 116	Quality Control & Inspection	1	Technical Studies
MMG 131	Metallurgy	1	Technical Studies
MMG 135	Machining Fundamentals	3	Technical Studies
MMG 155	CNC Lathe	3	Technical Studies
MMG 156	CNC Operations	3	Technical Studies
MMG 160	CNC Milling I	3	Technical Studies
AVC 110	Safety/OSHA 10	1	Technical Studies
PDV 115	Work Ethics	2	General Studies

Spring

Course #	Course Title	Credits	Function
MMG 130	Bench Work	1	Technical Studies
MMG 140	Metrology	4	Technical Studies
MMG 170	Mastercam Mill 2 Axis	4	Technical Studies
MMG 184	Multi-Axis Milling	4	Technical Studies
MCD 106	Precision Measuring	2	Technical Studies

Technical Certificate, CNC Operator (Machining & Manufacturing Technology)

Fall **Total Credits 20**

Course #	Course Title	Credits	Function
MMG 113	Print Reading	3	Technical Studies
MMG 116	Quality Control & Inspection	1	Technical Studies
MMG 131	Metallurgy	1	Technical Studies
MMG 135	Machining Fundamentals	3	Technical Studies
MMG 155	CNC Lathe	3	Technical Studies
MMG 156	CNC Operations	3	Technical Studies
MMG 160	CNC Milling I	3	Technical Studies
AVC 110	Safety/OSHA 10	1	Technical Studies
PDV 115	Work Ethics	2	General Studies

Kansas Systemwide General Education