

Advanced Manufacturing - COE 2020 - 2021

MACHINING TECHNOLOGY

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Workforce Degrees and Certificates 2020-2021

MACHINING TECHNOLOGY

MACHINING TECHNOLOGY

Associate of Applied Science

SCH

FIRST YEAR

First Semester - Fall

EDUC 1300	Learning Framework	3
MCHN 1343	Machine Shop Mathematics	3
MCHN 1302	Print Reading for Machining Trades	3
ENTC 1347	Safety & Ergonomics	3
MCHN 1338	Basic Machine Shop I	3
Semester Total		15

Second Semester - Spring

HYDR 1345	Hydraulics & Pneumatics	3
MCHN 1308	Basic Lathe	3
MCHN 1313	Basic Milling Operations	3
MCHN 1320	Precision Tools & Measurement	3
MCHN 1305	Metals & Heat Treatment	3
Semester Total		15

SECOND YEAR

First Semester - Fall

MCHN 2333	Advanced Lathe Operations	3
MCHN 2337	Advanced Milling Operations	3
INMT 1370	Lean Manufacturing	3
MCHN 2331	Operation of CNC Turning Centers OR	
INMT 1345	Computer Numerical Controls	3
Semester Total		12

Second Semester - Spring

XXXX #3## ¹	Social/Behavioral Sciences Elective	3
HUMA 1301	Introduction to Humanities OR	
XXXX #3## ¹	Humanities/Fine Arts Elective	3
XXXX #3## ¹	General Education Elective	3
XXXX #3## ¹	General Education Elective	3
XXXX #3## ¹	Math/Natural Science Elective	3
Semester Total		15

Third Semester - Summer

MCHN 2341	Advanced Machining I (Capstone)	3
Semester Total		3

Total Minimum Credits for the AAS Degree **60**

¹A list of electives appears in the Core Curriculum section of this catalog.

Workforce Degrees and Certificates 2020-2021

MACHINING TECHNOLOGY - BASIC MANUFACTURING/MACHINING

Certificate - Level 1		SCH
First Semester - Fall		
ENTC 1347	Safety & Ergonomics	3
MCHN 1302	Print Reading for Machining Trades	3
MCHN 1338	Basic Machine Shop I	3
MCHN 1343	Machine Shop Mathematics	3
Semester Total		12
Second Semester - Spring		
HYDR 1345	Hydraulics & Pneumatics	3
MCHN 1308	Basic Lathe	3
MCHN 1313	Basic Milling Operations (Capstone)	3
Semester Total		9
Total Minimum Credits for the Level 1 Certificate		21

Workforce Degrees and Certificates 2020-2021

MACHINING TECHNOLOGY

Certificate - Level 2

SCH

FIRST YEAR

First Semester - Fall

EDUC 1300	Learning Framework	3
MCHN 1343	Machine Shop Mathematics	3
MCHN 1302	Print Reading for Machining Trades	3
ENTC 1347	Safety & Ergonomics	3
MCHN 1338	Basic Machine Shop I	3
Semester Total		15

Second Semester - Spring

HYDR 1345	Hydraulics & Pneumatics	3
MCHN 1308	Basic Lathe	3
MCHN 1313	Basic Milling Operations	3
MCHN 1320	Precision Tools & Measurement	3
MCHN 1305	Metals & Heat Treatment	3
Semester Total		15

SECOND YEAR

First Semester - Fall

MCHN 2337	Advanced Milling Operations	3
MCHN 2333	Advanced Lathe Operations	3
INMT 1370	Lean Manufacturing	3
MCHN 2331	Operation of CNC Turning Centers OR	
INMT 1345	Computer Numerical Controls	3
Semester Total		12

Second Semester - Spring

MCHN 2341	Advanced Machining I (Capstone)	3
Semester Total		3

Total Minimum Credits for the Level 2 Certificate **45**

Workforce Degrees and Certificates 2020-2021

MACHINING TECHNOLOGY - COMPUTER NUMERICAL CONTROLS (CNC) - SPECIALIZATION

Associate of Applied Science

SCH

FIRST YEAR

First Semester - Fall

EDUC 1300	Learning Framework	3
MCHN 1320	Precision Tools & Measurement	3
MCHN 1302	Print Reading for Machine Trades	3
ENTC 1347	Safety & Ergonomics	3
MCHN 1338	Basic Machine Shop	3
Semester Total		15

Second Semester - Spring

INMT 1345	Computer Numerical Controls	3
MCHN 2331	Operations of CNC Turning Centers	3
MCHN 1308	Basic Lathe	3
MCHN 1313	Basic Mill Operations	3
MCHN 1343	Machine Shop Mathematics	3
Semester Total		15

SECOND YEAR

First Semester - Fall

MCHN 2334	Operations of CNC Machining Centers	3
MCHN 2303	Fundamentals of Computer Numerical Controlled (CNC) Machine Controls	3
MCHN 1305	Metals and Heat Treatment	3
XXXX #3## ¹	Math/Natural Science Elective	3
XXXX #3## ¹	Humanities/Fine Arts Elective	3
Semester Total		15

Second Semester - Spring

MCHN 1326	Introduction to Computer-Aided Manufacturing (CAM)	3
ARTS 2341	Metals	3
XXXX #3## ¹	General Education Elective	3
XXXX #3## ¹	General Education Elective	3
MCHN 2335	Advanced CNC Machining (Capstone)	3
Semester Total		15

Total Minimum Credits for the AAS Degree

60

¹A list of electives appears in the Core Curriculum section of this catalog.

Workforce Degrees and Certificates 2020-2021

MANUFACTURING ENGINEERING TECHNOLOGY

MANUFACTURING ENGINEERING TECHNOLOGY

Associate of Applied Science

SCH

FIRST YEAR

First Semester - Fall

EDUC 1300	Learning Framework	3
MCHN 1343	Machine Shop Mathematics	3
MCHN 1302	Print Reading for Machining Trades	3
ENTC 1347	Safety & Ergonomics	3
MCHN 1338	Basic Machine Shop I	3
Semester Total		15

Second Semester - Spring

HYDR 1345	Hydraulics & Pneumatics	3
ELPT 1311	Basic Electrical Theory	3
INMT 1372	Quality and Assessment	3
INMT 1345	Computer Numerical Controls	3
MCHN 2331	Operation of CNC Turning Centers	3
Semester Total		15

SECOND YEAR

First Semester - Fall

INMT 1343	Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)	3
INMT 1305	Introduction to Industrial Maintenance	3
INMT 1317	Industrial Automation	3
INMT 1370	Lean Manufacturing	3
INMT 1319	Manufacturing Processes (Capstone)	3
Semester Total		15

Second Semester - Spring

XXXX #3## ¹	Social Science / Behavioral Elective	3
ARTS 2341	Metals OR	
XXXX #3## ¹	Humanities / Fine Arts Elective	3
ARTS 1316	Drawing I	3
HUMA 1301	Introduction to Humanities OR	
XXXX #3## ¹	Humanities / Fine Arts Elective	3
XXXX #3## ¹	Math/Natural Science Elective	3
Semester Total		15

Total Minimum Credits for the AAS Degree **60**

¹A list of electives appears in the Core Curriculum section of this catalog.

Workforce Degrees and Certificates 2020-2021

MANUFACTURING ENGINEERING TECHNOLOGY - HELPER

Certificate - Level 1

SCH

FIRST YEAR

First Semester - Fall

MCHN 1343	Machine Shop Mathematics	3
MCHN 1302	Print Reading for Machining Trades	3
ENTC 1347	Safety & Ergonomics	3
MCHN 1338	Basic Machine Shop I OR	
INMT 1372	Quality and Assessment	3
Semester Total		12

Second Semester - Spring

HYDR 1345	Hydraulics & Pneumatics	3
INMT 1319	Manufacturing Processes	3
INMT 1305	Introduction to Industrial Maintenance (Capstone)	3
Semester Total		9

Total Minimum Credits for the Level 1 Certificate **21**

Workforce Degrees and Certificates 2020-2021

MANUFACTURING ENGINEERING TECHNOLOGY - TECHNICIAN

Certificate - Level 2

SCH

FIRST YEAR

First Semester - Fall

EDUC 1300	Learning Framework	3
MCHN 1343	Machine Shop Mathematics	3
MCHN 1302	Print Reading for Machining Trades	3
ENTC 1347	Safety & Ergonomics	3
MCHN 1338	Basic Machine Shop I	3
Semester Total		15

Second Semester - Spring

HYDR 1345	Hydraulics & Pneumatics	3
ELPT 1311	Basic Electrical Theory	3
INMT 1372	Quality and Assessment	3
INMT 1345	Computer Numerical Controls	3
MCHN 2331	Operation of CNC Turning Centers	3
Semester Total		15

SECOND YEAR

First Semester - Fall

INMT 1343	Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)	3
INMT 1305	Introduction to Industrial Maintenance	3
INMT 1317	Industrial Automation	3
INMT 1370	Lean Manufacturing	3
MCHN 2335	Advanced CNC Machining (Capstone)	3
Semester Total		15

Total Minimum Credits for the Level 2 Certificate

45

Workforce Degrees and Certificates 2020-2021

MANUFACTURING ENGINEERING TECHNOLOGY - HIGH VALUE MANUFACTURING

Certificate - Level 2		SCH
First Semester - Fall		
ENTC 1347	Safety & Ergonomics	3
MATH 1314	College Algebra	3
MCHN 1302	Print Reading for Machining Trades	3
MCHN 1338	Basic Machine Shop I	3
PTRT 1301	Introduction to Petroleum Industry	3
Semester Total		15
Second Semester - Spring		
INCR 1302	Physics of Instrumentation	3
INMT 1345	Computer Numerical Controls	3
INMT 1371	Materials & Applications	3
MCHN 1308	Basic Lathe	3
MCHN 1313	Basic Milling Operations	3
PTRT 1470	Petroleum Data Management	4
Semester Total		19
Third Semester - Summer		
INMT 1343	Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)	3
INMT 1372	Quality & Assessment	3
INMT 1373	Machine Shop Logistics	3
INMT 2370	Project Management (Capstone)	3
PTRT 2370	Petroleum Operations	3
Semester Total		15
Total Minimum Credits for the Level 2 Certificate		49