MACHINE TOOL TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: This associate degree program familiarizes the student with machine tools and manufacturing processes, develops skills in the operation of computer-aided drafting software, and provides hands-on experience setting up, programming, and operating Computer Numerical Control (CNC) machines and advanced inspection equipment. Computer-Aided Manufacturing (CAM) and Statistical Process Control (SPC) are skills integrated within the curriculum to prepare the student for employment as CNC programmers, machinists, toolmakers, and quality assurance technicians, or move on to complete a four-year degree in Manufacturing Engineering.

GENERAL EDUCATION REQUIREMENTS **CREDITS: 12**

ENG 120 *or*	APPLIED COMMUNICATION (3/3) *or*
ENG 111	ENGLISH COMPOSITION I (3/3)
ENG 123 *or*	TECHNICAL COMMUNICATION (3/3) *or*
ENG 112	ENGLISH COMPOSITION II (3/3)
PHY 111	APPLIED PHYSICS (3/4)
PLS 221 *or*	AMERICAN GOVERNMENT & POLITICS (3/3) *or*
PLS 222	STATE & LOCAL GOVERNMENT (3/3)

CORE PROGRAM REQUIREMENTS **CREDITS: 48-49**

CAD 150	3D MODELING (3/4) [A]
CAD 220	MACHINE DESIGN (3/4) [A B]
CAD 250	ADVANCED 3D MODELING (3/4) [A]
MET 200	MATERIAL SCIENCE (3/4) [A]
MFG 101	MACHINING PROCESSES I (4/6) [A]
MFG 102	MACHINING PROCESSES II (4/6) [A]
MFG 122	MANUFACTURING PROCESSES (3/3) [A C]
MFG 201	CNC I (4/6) [A]
MFG 202	CNC II (4/6) [A]
MFG 204	COMPUTER-AIDED MFG (CAM) (3/4) [A]
MFG 205	CNC III (4/6) [A]
MFG 220	JIGS & FIXTURE DESIGN (4/6) [A]
MTH 110 *or*	TECHNICAL MATH I (3/4) *or*
MTH 113	INTERMEDIATE ALGEBRA (4/4)
MTH 122	PLANE TRIGONOMETRY (3/3) [D]

SUGGESTED ELECTIVES **CREDITS: 3**

APP OR WLD COURSE (3/3)

MINIMUM 63 CREDIT HOURS/83 CONTACT HOURS

NOTES:

[A] Included in occupational specialty.
GPA of 2.0 or higher must be maintained in occupational specialty courses

[B] May substitute with MFG 206 Advanced CAD/CAM Integration

[C] May substitute with MFG 230 Manufacturing Capstone Project

[D] May substitute with MTH 112

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ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE
SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER) **CREDITS: 16-17**

CAD 150	3D MODELING (3/4)
ENG 120 *or*	APPLIED COMMUNICATION (3/3) *or*
ENG 111	ENGLISH COMPOSITION I (3/3)
MET 200	MATERIAL SCIENCE (3/4)
MFG 101	MACHINING PROCESSES I (4/6)
MTH 110 *or*	TECHNICAL MATH I (3/4) *or*
MTH 113	INTERMEDIATE ALGEBRA (4/4)

YEAR 1 (SPRING SEMESTER) **CREDITS: 17**

ENG 123 *or*	TECHNICAL COMMUNICATION (3/3) *or*
ENG 112	ENGLISH COMPOSITION II (3/3)
MFG 102	MACHINING PROCESSES II (4/6)
MFG 201	CNC I (4/6)
MFG 204	COMPUTER-AIDED MFG (CAM) (3/4)
MTH 122	PLANE TRIGONOMETRY (3/3)

YEAR 2 (FALL SEMESTER) **CREDITS: 17**

CAD 220	MACHINE DESIGN (3/4)
MFG 122	MANUFACTURING PROCESSES (3/3)
MFG 202	CNC II (4/6)
MFG 220	JIGS & FIXTURE DESIGN (4/6)
PLS 221 *or*	AMERICAN GOVERNMENT & POLITICS (3/3) *or*
PLS 222	STATE & LOCAL GOVERNMENT (3/3)

YEAR 2 (SPRING SEMESTER) **CREDITS: 13**

	APP or WLD Elective (3/3)
CAD 250	ADVANCED 3D MODELING (3/4)
MFG 205	CNC III (4/6)
PHY 111	APPLIED PHYSICS (3/4)