



EAST CENTRAL COLLEGE PRECISION MACHINING TECHNOLOGY

ASSOCIATE OF APPLIED SCIENCE DEGREE AND CERTIFICATES

East Central College

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Union, Missouri 63084
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Admissions Office

ECC Campus
636-584-6563
admissions@eastcentral.edu

Program Location

ECC-Washington
Located at the
Four Rivers Career Center
1978 Image Drive
Washington, MO 63090
636-239-0598

Program Faculty

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Coordinator
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Division

Business & Industry
636-584-6139



**NATIONAL
CAREER READINESS
CERTIFICATE®**

ACCREDITED BY



National Institute for
Metalworking Skills

East Central College is
accredited by the Higher
Learning Commission of the
North Central Association of
Colleges and Schools
30 N. LaSalle St., Suite 2400
Chicago, Illinois 60602-2504
800-621-7440

THE CAREER

Machinists use machine tools, such as lathes, milling machines and machining centers to produce precision metal parts. Although they may make large quantities of one part, precision machinists often produce small batches or one-of-a-kind items. They use their knowledge of the working properties of metals and their skill with machine tools to plan and carry out the operations needed to make machined products that meet precise specifications.

PROFESSIONAL TRAITS

Those pursuing a career in precision machining technology should:

- Be mechanically inclined
- Have good problem-solving abilities
- Be able to work independently
- Be able to do highly accurate work

EMPLOYMENT AND SALARY INFORMATION

Per the U.S. Bureau of Labor Statistics, the manufacturing industries employing the largest number of machinists were:

- ✓ Machine shops
- ✓ Turned product and screw, nut and bolt manufacturing
- ✓ Metalworking machinery
- ✓ Employment services
- ✓ Motor vehicle parts manufacturing
- ✓ Aerospace product and parts manufacturing

In May 2013, the median hourly wage for machinists was \$19.03, or \$39,582 annually.

SPECIAL FUNDING AVAILABLE

Scholarships and grants are available for those who qualify through the Missouri Manufacturing WINs grant. Please contact Financial Aid for more details.

THE PROGRAM

The Precision Machining Technology program is offered at the ECC site in Washington (Four Rivers Career Center). Designed in conjunction with the region's extensive machine tool industry, students learn the latest processes of manufacturing and machining from faculty who have worked in the field. Students study in laboratories with state-of-the-art machining equipment including a Wire EDM machine. Students explore coursework leading to an Associate of Applied Science degree or certificate intended to prepare them to enter the workforce.

A consortium of the leading local companies in the field work with educators at ECC and Four Rivers Career Center to design a program that fits the needs of students and employers. Students are well prepared to enter the workforce, and employers know that graduates of the program are trained and dependable.

ADMISSIONS REQUIREMENTS

To enter the program, students must have completed:

- ✓ High school diploma or the equivalent (documentation sent to the registration office)
- ✓ Application for admission
- ✓ A placement test as specified by the college (please note: some coursework requires minimum placement results)

Students must also be able to demonstrate basic computer skills.

TRANSFER OPTIONS

The AAS degree is designed for students seeking employment immediately upon graduation. However, many of the credits, particularly the general education electives received with this degree, may qualify as transfer credit by four-year schools.

These decisions are made solely by the bachelor degree-granting institution, not East Central College. Students seeking to transfer are advised to contact the institution of their choice before beginning a program or reviewing other degrees and coursework offered through ECC.

■ **ROLLA**
573-466-4100

■ **SULLIVAN**
573-468-8287

■ **UNION**
636-584-6588

■ **WASHINGTON**
636-239-0598

WWW.EASTCENTRAL.EDU

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PROGRAM OF STUDY

This program of study is for a full-time student; part-time study is also available. Please contact an academic advisor for full course options. For the most current academic schedule (which is subject to change), visit the college Web site at www.eastcentral.edu.

AAS program (66 credit hours)

S- Course that is also part of the Certificate of Specialization program (30 credit hours)

A- Course that is also part of the Certificate of Achievement program (44 credit hours)

C- Course that is also part of the CNC Certificate of Achievement program (33 credit hours)

YEAR 1

FALL SEMESTER

COURSE	HOURS
FS 1000 Campus Orientation/	
FS 1001 Foundation Seminar	1
EN 1223 English Comp I or	
EN 1233 Honors English Comp I	3
MA 1013 Print Reading & Design ^{S, A, C}	3
MA 1161 Intro to CNC Mill & Lathe Lecture ^{A, C}	1
MA 1162 Intro to CNC Mill & Lathe Lab ^{A, C}	2
MA 1202 Machine Tool 1 Lecture ^{S, A, C}	2
MA 1212 Machine Tool 1 Lab ^{S, A, C}	2
MT 1083 Applied Algebra & Trigonometry	3
Total Hours	17

SPRING SEMESTER

COURSE	HOURS
MA 1221 Machine Tool 2 Lecture ^{S, A, C}	1
MA 1223 Machine Tool 2 Lab ^{S, A, C}	3
MA 1341 Computer Aided Manufacturing	
Lecture ^A	1
MA 1342 Computer Aided Manufacturing Lab ^A	2
MA 1421 CNC Lathe Lecture ^{S, A, C}	1
MA 1422 CNC Lathe Lab ^{S, A, C}	2
HI 1000/	
PS 1000 Constitutions Study Module	0
History or Pol. Science Requirement	3
Humanities Requirement	3
Total Hours	16

YEAR 2

FALL SEMESTER

COURSE	HOURS
MA 2021 Machine Tool 3 Lecture ^A	1
MA 2023 Machine Tool 3 Lab ^A	3
MA 2132 CNC 2 Mill Lecture ^{S, A, C}	2
MA 2142 CNC 2 Mill Lab ^{S, A, C}	2
MA 2151 Geometric Dim Tolerance & SPC	
Lecture ^{S, A, C}	1
MA 2152 Geometric Dim Tolerance & SPC	
Lab ^{S, A, C}	2
IE 2123 Materials & Metallurgy ^{S, A, C}	3
PE Requirement	1
Total Hours	15

SPRING SEMESTER

COURSE	HOURS
EN 1403 Technical Writing	3
MA 2163 Solidworks ^{S, A, C}	3
MA 2232 Machine Tool 4 Lecture ^A	2
MA 2242 Machine Tool 4 Lab ^A	2
MA 2421 Machining Capstone Lecture ^{S, A, C}	1
MA 2422 Machining Capstone Lab ^{S, A, C}	2
PH 1103 Introduction to Physics Lecture	3
PH 1112 Introduction to Physics Lab	2
Total Hours	18