



# EAST CENTRAL COLLEGE INDUSTRIAL ENGINEERING TECHNOLOGY

## ASSOCIATE OF APPLIED SCIENCE DEGREE AND CERTIFICATES

### East Central College

1964 Prairie Dell Road  
Union, Missouri 63084  
636-584-6500  
www.eastcentral.edu

### 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/ Coordinator

Nathan Esbeck  
636-239-0598  
naesbeck@eastcentral.edu

### Division

Career and Technical  
Programs  
636-584-6742



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

Industrial engineering technicians use the principles of science, engineering and mathematics to solve technical probes in research and development, manufacturing, sales, construction, inspection and maintenance. Their work is more narrowly focused and application-oriented than that of scientists and engineers.

Many engineering technicians assist engineers and scientists, especially in research and development. Others work in quality control, conducting tests or collecting data. In manufacturing, they may assist in product design, development or facilities maintenance.

## PROFESSIONAL TRAITS

Those pursuing a career in industrial engineering technology should:

- Have a certain degree of creativity
- Possess good communication skills
- Be able to work well with others

## EMPLOYMENT AND SALARY INFORMATION

Nationwide, the median annual earnings\* of industrial engineering technicians were \$48,210 in May 2010. Salaries for these professionals ranged from less than \$31,560 (lowest 10 percent) to more than \$73,440 (highest 10 percent).

The five industries employing the largest number of these positions and their median yearly earnings were:

Aerospace Product and Parts Manufacturing	\$58,410
Semiconductor and Other Electronic Component Manufacturing	\$48,280
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	\$47,790
Motor Vehicle Parts Manufacturing	\$46,370
Plastics Product Manufacturing	\$44,380

\* Data provided by the U.S. Bureau of Statistics

## THE PROGRAM

The Industrial Engineering Technology program is offered at the ECC site in Washington (Four Rivers Career Center). The program is accredited by the Association of Technology, Management, and Applied Engineering (ATMAE). Technicians install, troubleshoot and maintain complex manufacturing and processing equipment. Job titles include maintenance engineer, engineering technician and field service technician.

This program prepares students to function as technical assistants to engineers performing installation, maintenance and modification of advanced manufacturing equipment. Students receive training in machinery maintenance and repair; basic electrical principles, motor controls and process control systems; hydraulic and pneumatic control systems; programmable controls, robotics and industrial computers; welding and basic machine shop equipment; safety practices; and basic HVAC systems. Students also learn the problem-solving, teamwork and self-management skills demanded by business and industry today.

## ADMISSIONS REQUIREMENTS

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)

## 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.

Please note that 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.

UNION  
636-584-6500

SULLIVAN  
573-468-8287

ROLLA  
573-458-0165

WARRENTON  
636-584-6588

WASHINGTON  
636-239-0598

WWW.EASTCENTRAL.EDU

# INDUSTRIAL ENGINEERING TECHNOLOGY

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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](http://www.eastcentral.edu).

A- Course that is also part of the Certificate of Achievement program

S- Course that is also part of the Certificate of Specialization program

### YEAR 1

#### FALL SEMESTER

COURSE	HOURS
FS 1000 Campus Orientation/	
FS 1001 Foundation Seminar	1
EN 1223 English Comp I or	
EN 1233 English Comp I (Honors)	3
IE 1103 Introduction to Manufacturing Processes <sup>A, S</sup>	3
IE 1143 Industrial Electricity <sup>A, S</sup>	3
IE 2113 Maintenance Practices <sup>A, S</sup>	3
MT 1083 Applied Algebra & Trig	3
PE Requirement	1
<b>Total Hours</b>	<b>17</b>

#### SPRING SEMESTER

COURSE	HOURS
IE 1112/21 Industrial Power Systems Lecture/Lab	3
IE 1123 Industrial Computer Applications <sup>A, S</sup>	3
IE 2183 Process & Control Systems <sup>A</sup>	3
CT 1003 Oral Communications or	
CT 1103 Public Speaking	3
PH 1103/12 Intro to Physics Lecture/Lab	5
<b>Total Hours</b>	<b>17</b>

#### SUMMER SEMESTER

COURSE	HOURS
Program Elective <sup>A, S</sup>	3
<b>Total Hours</b>	<b>3</b>

### YEAR 2

#### FALL SEMESTER

COURSE	HOURS
EN 1403 Technical Writing	3
IE 1153 Motor Controls <sup>A, S</sup>	3
IE 2123 Materials and Metallurgy	3
IE 2213 PLC-Programmable Logic Controllers <sup>A</sup>	3
MA 1202/12 Machine Tool 1 Lecture/Lab <sup>A, S</sup>	4
<b>Total Hours</b>	<b>16</b>

#### SPRING SEMESTER

COURSE	HOURS
IE 1133 Industrial & Control System Wiring <sup>A, S</sup>	3
IE 2173 Industrial Systems Troubleshooting <sup>A</sup>	3
ED 2991 Career Management <sup>A, S</sup>	1
HI 1000/PS 1000 Constitutions Study Module	0
History or Pol. Science Requirement	3
Program Elective <sup>A</sup>	3
Program Elective <sup>A</sup>	3
<b>Total Hours</b>	<b>16</b>

#### PROGRAM ELECTIVES

COURSE	HOURS
AI 1302/11 Introduction to HVAC Lecture/Lab	3
BU 1003 Introduction to Business	3
BU 1193 Dynamics/Leadership	3
IE 2203 Instrumentation	3
MA 1221 Machine Tool 2 Lecture	1
MA 1223 Machine Tool 2 Lab	3
WL 1011 Welding I Lecture	1
WL 1014 Welding I Lab	4
IE 2313 Advanced Programmable Logic Controllers	3
IE 1333 Industrial Robotics	3

In accordance with the Privacy Act of 1974 (Public Law No. 93-502, 5 U.S.C. 552a), you are hereby notified that the Department of Labor is authorized to collect information to implement the Trade Adjustment Assistance Community College and Career Training Program under 19 U.S.C. 2372 - 2372a. The purpose for collecting this information is to administer the program and evaluate participant progress. Providing this information, including a social security number (SSN) is voluntary. Failure to disclose a SSN will not result in the denial of any right, benefit or privilege to which the participant is entitled.

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