Transfer Engineering

Associate of Science Degree

"The East Central engineering program is just like a family. All of the students in the program are friends with each other. There is always someone to help, or just talk to.

I chose ECC because of their great relationship with Missouri S&T. Advisors at both colleges are very helpful and knowledgeable about what classes are needed and what transfers."

Jesse DeBoeuf
Recent ECC graduate and current MO S&T student

"The engineering department at ECC gave me the tools needed to excel at Missouri S&T. The academic challenges presented to me developed the skills needed to fulfill many leadership roles at Missouri S&T and beyond."

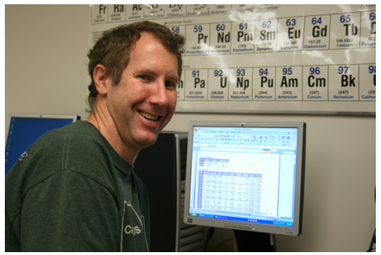
Adam Lewis
Software engineer
Quackenbush Engineering Solutions
and Technologies LLC

"East Central developed the analytical skills that I used both at Garmin, and now at Boeing. My job constantly requires that I learn every day, and East Central gave me the firm foundation for this to be possible."

Michael K. Schmidt
Realtime software engineer

"East Central College prepared me for continuing my education at a university by challenging me every day in both coursework and time management. When I transferred to Missouri S&T it was a smooth transition. I especially liked the small class sizes and the fact that every professor knew me on a first name basis. "

Pamela Roach
MO S&T graduate student majoring in mechanical engineering.



"My mid-life career change was met with encouraging and knowledgeable instructors who have mentally challenged me. The ECC campus provided a personable atmosphere where I found new friendships."

Brian Suerig
Recent ECC graduate and current MO S&T student
Former Chrysler employee

"I would recommend ECC to anyone planning to attend Missouri S&T. I feel that I am more prepared for my S&T classes than S&T students, due to the analytical and critical thinking skills I learned in ECC's engineering program. The atmosphere at ECC made it easy to find study groups and my professors were always willing to help!"

William Marchetto
MO S&T student majoring in electrical engineering and computer engineering

4-17-13

East Central College
Transfer Engineering

Associate of Science Degree

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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

Engineers apply math and science principles to develop practical solutions to technical problems. They design products, machinery to build those products and the plants in which those products are made. Engineers also design the systems that ensure the quality of the products and the efficiency of the workforce and manufacturing process.

In addition, these professionals design, plan and supervise the construction of buildings, highways and transit systems. Engineers develop and implement improved ways to extract, process and use raw materials such as minerals, petroleum and biomass.

Moreover, they harness the power of the sun and resources from the Earth to meet the energy needs of society. To this end, engineers analyze the impact of the products they develop or the systems they design on the environment and the people using them.

Professional Traits

Those pursuing a career in engineering should:

- Have an aptitude for math and science
- Be able to analyze, compare and interpret facts and figures quickly
- Clearly communicate the results of their work to clients and managers both verbally and in writing
- Be good at working with people, business systems and computers

Employment Opportunities

Per the U.S. Bureau of Labor Statistics, these categories of engineers are expected to have employment growth over the projected decade: mechanical engineers at nine percent, electrical engineers and chemical engineers at six percent and civil engineers at 19 percent.

Median wage and salary earnings are:

Civil Engineer:	$77,560
Mechanical Engineer:	$78,280
Electrical Engineer:	$87,180
Chemical Engineer:	$90,300

The Program

ECC offers its engineering students a complete two-year program which includes the basic physics and calculus classes, as well as upper-level science and engineering electives. Students participate in classroom design and robotics projects.

Class sizes are small and students have the opportunity to receive individual help when necessary. With the ECC Associate of Science Degree in Transfer Engineering, students are able to focus on any of the 15 different fields of engineering.

Admission 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

East Central College engineering students transfer to four-year engineering programs with a very high completion rate. They benefit from an articulation agreement and 30-plus year history of successful transfer to the Missouri University of Science and Technology.

Transferring credit is decided by the bachelor degree-granting institution, not ECC. Students are advised to contact any four-year college or university they are interested in as soon as possible so the appropriate classes can be taken at ECC.

Transfer Engineering

Associate of Science Degree

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Program Of Study

This sequence of courses is designed for the student who plans to attend ECC full-time and is prepared to take Calculus I as an entering freshman. Part-time study is 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.

Year 1

Fall Semester

Course		Hours
FS 1000/ FS 1001	Campus Orientation/ Foundation Seminar	1
MT 1605	Calculus I	5
EG 1103	Engineering Design	3
EN 1223 EN 1233	English Comp I or Honors English Comp I	3
SC 1000	Laboratory Safety for Students	0
CH 1305	General Chemistry I Lecture/Lab	5
	Total Hours	17

Spring Semester

Course		Hours
MT 2105	Calculus II	5
PH 2103	Physics I Lecture	3
PH 2112	Physics I Lab	2
HI 1000/ PH 1000	Constitutions Study Module	0
	History or Pol. Science Requirement	3
	Humanities/Social Science Elective	3
	Total Hours	16

Year 2

Fall Semester

Course		Hours
MT 2205	Calculus III	5
PH 2203	Physics II Lecture	3
PH 2212	Physics II Lab	2
	Technical Elective *	4
	Technical Elective *	3
	Total Hours	17

Spring Semester

Course		Hours
MT 2303	Differential Equations	3
EC 2103 EC 2203	Macroeconomics or Microeconomics	3
	Technical Elective *	3
	Communications Elective	3
	Humanities/Social Science Elective	3
	Total Hours	15

*Technical Electives Include:

Course		Hours
EG 2003	Statics	3
EG 2013	Metallurgy	3
EG 2103	Dynamics	3
EG 2203	C++ Programming Lecture	3
EG 2211	C++ Programming Lab	1
EG 2303	Circuits	3
CH 1405	General Chemistry II Lecture/Lab	5
CH 2305	Organic Chemistry I Lecture/Lab	5
CH 2405	Organic Chemistry II Lecture/Lab	5
GL 1103	Geology Lecture	3
GL 1112	Geology Lab	2
MT 2223	Engineering Statistics	3

Specific Degree Requirements for Each Type of Engineering

Type of Engineering	Specific Humanities/ Social Science Requirements	Specific History or Government Requirement	Specific Communication Requirement	Technical Electives
Aerospace	Ethics and Literature			Statics, Dynamics, C++ Programming, Circuits
Architectural	One must be upper level	History		Statics, Dynamics, Circuits, Engineering Statistics
Ceramic	One must be upper level			Statics, Engineering Statistics, Chem II
Chemical				Chem II, Organic Chem I, Organic Chem II, C++ Programming
Civil				Geology, Statics, Dynamics
Computer	One must be Public Speaking		English Comp II	C++ Programming, Circuits, Statistics
Electrical	One must be Public Speaking		English Comp II	C++ Programming, Circuits, Statistics
Engineering Management	One must be General Psychology			Statics, Dynamics, C++ Programming, Circuits, Engineering Statistics
Environmental		History		Chem II, Geology, Biology, Engineering Statistics, Statics, Dynamics
Geological	One must be upper level		Public Speaking	Engineering Statistics, Geology, Biology, Statics, Dynamics
Mechanical	One must be a Literature			Statics, Dynamics, Engineering Statistics, C++ Programming, Circuits, Metallurgy
Metallurgical	One must be upper level			Engineering Statistics, Statics, Circuits, Metallurgy
Mining	One must be upper level		Technical Writing	Engineering Statistics, Geology, Metallurgy
Nuclear	One must be upper level		English Comp II	Engineering Statistics, Statics, C++ Programming, Metallurgy
Petroleum	One must be upper level		Technical Writing	Geology, Statics, Dynamics

Missouri S&T Accepted Humanities and Social Science Electives (***denotes upper level courses)

Course		Hours
AR 1203	Art Appreciation	3
CT 1103	Public Speaking	3
CT 1123	Introduction to Film Studies	3
CT 1303	Theater Appreciation	3
CV 2623	East Asian Civilization Since 1800	3
EC 2203	Principles of Microeconomics	3
EC 2303	Principles of Macroeconomics	3
ED 2413	Educational Psychology	3
EN 1333	English Comp II	3
EN 1413	World Literature I	3
EN 1423	World Literature II	3
EN 2103	British Literature to 1784	3
EN 2113	British Lit. Romantic to Present	3
EN 2203	American Literature to 1865	3
EN 2213	American Literature to Present	3
EN 2323	Women's Literature	3
EN 2603	Shakespeare on Stage***	3
FR 1104	French I	4
FR 1204	French II***	4
GR 1104	German I	4
GR 1204	German II***	4
HI 1103	US History to 1865	3
HI 1203	US History 1865-1945	3
HI 2103	European Civilization I	3
HI 2203	World Civilization II	3
MU 1603	Music Appreciation	3
PR 1003	Intro to Philosophy	3
PR 1203	History of Modern Philosophy	3
PR 1303	Living World Religions	3
PR 2103	Ethics***	3
PS 1203	US Government I	3
PS 2103	International Relations	3
PY 1103	General Psychology	3
PY 1203	Research Methods***	3
PY 2103	Personal and Social Adjustment***	3
PY 2213	Abnormal Psychology***	3
PY 2403	Human Development***	3
SO 1103	General Sociology	3
SO 2203	Marriage and Family***	3
SP 1104/1204	Spanish I/Spanish II***	4