



Catalog Year Fall 2015

EAST CENTRAL COLLEGE

MATHEMATICS

ASSOCIATE OF ARTS DEGREE

East Central College
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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

Generally, mathematics is a profession chosen by people who are analytical by nature and approach problems thinking critically. Many employers value these traits and the skills developed and demonstrated by mathematics majors.

A career in this field can take many forms from banking, finance, actuarial work and insurance to programming, software/systems engineering, teaching and government. Mathematics graduates also have a good record of being admitted to professional law, business and medical schools.

PROFESSIONAL TRAITS

Those pursuing a career in mathematics should:

- Be able to analyze, compare and interpret facts and figures quickly
- Have solid problem-solving and critical-thinking skills
- Be good at working with people, business systems and computers
- Have strong written, verbal and interpersonal communication skills

EMPLOYMENT AND SALARY INFORMATION

The number of mathematics jobs nationwide is increasing by at least an average rate compared to all other occupations, per the U.S. Bureau of Labor Statistics. For example, by 2022, statistician jobs are expected to increase by 27% and actuary positions by 26%.

As of May 2012, the median annual salary for four main mathematics careers (requiring at least a bachelor's degree) were:

Operation Research Analyst	\$72,100
Statistician	\$75,560
Actuary	\$93,680
Mathematician	\$101,360

THE PROGRAM

ECC students who earn their Associate of Arts Degree in Mathematics are prepared to enter an undergraduate major leading to further training and careers in this field. Through this AA degree program, students develop the foundational skills in mathematics, flexibility in thinking and intellectual sophistication necessary for career advancement.

Students have several course options and electives available. Assuming appropriate placement scores, mathematics is a two-year degree, with flexibility to customize the program toward the student's chosen career.

This academic plan consists of the 43-credit hour general education core required of all transfer degrees plus the necessary electives in traditional mathematics, the calculus sequence, statistics, differential equations and more. In addition, the college provides various student activities, organizations and practicum experiences related to the discipline.

ADMISSION REQUIREMENTS

To enter the program, students must have completed:

- ✓ High school diploma or the equivalent (documentation must be 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

This curriculum is intended for students planning to transfer to a four-year institution. Many of the credits, particularly the general education electives earned with this degree, are accepted as transfer credits by four-year colleges and universities. These decisions are made solely by the bachelor degree-granting institution.

Students seeking to transfer should communicate often with their faculty advisors and the East Central College transfer advisor. They should also make early contact with the four-year institution of their choice regarding the transferability of ECC credits and coursework.

■ **ROLLA**
573-466-4100

■ **SULLIVAN**
573-468-8287

■ **UNION**
636-584-6588

■ **WASHINGTON**
636-239-0598

WWW.EASTCENTRAL.EDU

PROGRAM OF STUDY

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

YEAR 1

FALL SEMESTER

COURSE	HOURS
FS 1000/ FS 1001 Campus Orientation/ Foundation Seminar	1
MT 1605 Analytic Geometry & Calculus I (HOT, MAI, MTH)	5
SC 1000 Laboratory Safety for Students	0
EN 1223 English Comp I or EN 1233 English Comp I (Honors)	3
Biology Requirement	3-5
PR 1113 Introduction to Logic (recommended) or Humanities Requirement	3
Total Hours	15-17

SPRING SEMESTER

COURSE	HOURS
EN 1333 English Comp II or EN 1343 English Comp II (Honors)	3
MT 2105 Analytic Geometry & Calculus II	5
HI 1000 Constitutions Study Module	0
HI 1103 U.S. History to 1865 (recommended) or HI 1203 U.S. History 1865-1945 or HI 1303 U.S. History 1945-Present	3
PH 2103/ PH 2112 General Physics I Lecture/Lab (recommended) or Physical Science Requirement	5
PE Requirement	1
Total Hours	17

SUMMER SEMESTER

COURSE	HOURS
EC 2103 Principles of Macroeconomics or EC 2203 Principles of Microeconomics (both above recommended) or Social Science Requirement	3
EN 1603 Fiction or EN 1803 Art of the Novel or EN 2123 African American Literature or EN 2313 Creative Writing or EN 2323 Women's Literature (all above recommended) or Humanities Requirement	3
Total Hours	6

YEAR 2

FALL SEMESTER

COURSE	HOURS
MT 2205 Analytic Geometry & Calculus III	5
CT 1003 Oral Communications or CT 1103 Public Speaking	3
SO 1103 General Sociology (recommended) or Social Science Requirement	3
Recommended Elective*	3-5
Total Hours	14-16

SPRING SEMESTER

COURSE	HOURS
MT 2303 Differential Equations	3
GR 1104 Elementary German I (recommended) or Humanities Requirement	4
Recommended Elective*	3-5
Recommended Elective*	3-5
Total Hours	13-17

*RECOMMENDED ELECTIVES

Students work with an ECC advisor and the baccalaureate institution of their choice to enroll in electives that will best transfer.

CH 1305	General Chemistry I Lecture/Lab
CH 1405	General Chemistry II Lecture/Lab
EG 2003	Engineering Mech-Statics
EG 2203/ EG 2211	C++ Program Engineers Lecture/Lab
EG 2303	Introduction to Circuit Theory
MT 2103	Statistics
MT 2223	Engineering Statistics
PH 2203/ PH 2212	General Physics II Lecture/Lab