

Associate in Arts Pathway to a major in Civil Engineering (10908) 2015—2016

About the Major

Civil engineers are innovators, creators, and entrepreneurs. They design and build structures such as bridges, buildings, dams, and even roller coasters. They also devise complex systems such as transportation and water supply networks, and information systems for design and management of engineering projects. Civil engineers know how to evaluate risk and ensure the high reliability of their designs. (As creators of skyscrapers, suspension bridges, and drinking water systems, failure is not acceptable.)



Areas of Specialization

- ◆ Environment
- ◆ Water and energy
- ◆ Transportation
- ◆ Geotechnical
- ◆ Structural
- ◆ Construction
- ◆ Sustainability



What can I do with this degree

Civil engineers plan, design, and supervise the construction of facilities such as high-rise buildings, airports, bridges, dams, water treatment centers, and sanitation plants. There are two types of civil engineering roles within the various specialisms: consultants who focus on design work and generally spend more time in the office or working with clients, and contractors who are more involved with keeping an eye on the physical construction and are usually based on-site.

Earn This Degree and Work as...

Position	Median Salary
Civil Engineer	\$79,340
Environmental Engineer	\$80,980
Geological Engineer	\$84,320
Structural Engineer	\$85,000

Source for position and salary information is from Bureau of Labor Statistics 2012.

Civil Engineering

Suggested Program Schedule

A.A. Pathway to a major in Civil Engineering Program Code 10908

Total credits required for the degree is 60.

The civil engineering curriculum prepares the student for a career in a variety of fields including but not limited to structural, environmental, transportation and water resources. You will learn to apply mathematics and physical sciences to solve specific, real-world problems—working in government agencies or private industry. You will learn about the principal areas of civil engineering and the curriculum is designed to help students develop communication skills, teamwork and leadership skills.

GENERAL EDUCATION REQUIREMENTS—36 credits required (Select the following courses)

Course	Course Title	Credits
ENC1101	English Composition 1	3
ENC1102	English Composition 2	3
SPC1017	Fundamental of Speech Communication	3
PHI2604	Critical Thinking/Ethics	3
PHI2010	Introduction to Philosophy	3
PSY2012	Introduction to Psychology	3
ECO2013	Principles of Macro-Economics	3
MAC2311	Calculus 1	5
MAC2312	Calculus 2	1
CHM1045	General Chemistry 1	3
BSC2010	Principles of Biology 1	3
MAP2302	Differential Equations (Gen. Educ. Req.)	3

MAJOR COURSE ELECTIVES— 24 credits required

Choose 24 credits of these Electives under your advisor's guidance.

MAC2312	Calculus 2	3
MAC2313	Calculus 3	4
EGN1008C	Intro to Engineering	3
ETD1340	AutoCAD	3
GLY1010	Physical Geology	3
GLY1010	Physical Geology Lab	1
CHM1045L	General Chemistry 1 Lab	2
PHY2048	Physics with Calculus 1	4
PHY2048L	Physics with Calculus 1 Lab	1

COMPUTER COMPETENCY

CGS1060	Intro to Microcomputer Usage	0
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*Required Engineering pre-requisite courses

Classes which are required to transfer to a Engineering degree granting institution include the following:

EGN2312	Engineering Statics	4
CHM1046	General Chemistry 2	3
CHM1046L	General Chemistry 2 Lab	2
BSC2010L	Principles of Biology 1 Lab	2
PHY2049	Physics with Calculus 2	4
PHY2049L	Physics with Calculus 2 Lab	1
SUR1101C	Surveying 1	3

The following schedule is based on students beginning in one of the major semesters (Fall or Spring) and following the suggested schedule on a continuing Fall/Spring basis as prescribed by the Faculty of the Department. This however is only one of many possible methods to complete your degree. Please note that some classes may not be offered every semester as well as some may not be offered in the Summer. It is highly recommended that you seek the advice of an Engineering department advisor and/or faculty member prior to starting.

First Term

15 Credits

ENC1101	English Composition 1	3
MAC2311	Calculus 1	5
SPC1017	Fundamentals of Speech Communication	3
CGS1060	Introduction to Microcomputers	4

Second Term

15 Credits

ENC1102	English Composition 2	3
MAC2312	Calculus 2	4
CHM1045	General Chemistry 1	3
CHM1045L	General Chemistry 1 Lab	2
EGN1008C	Intro to Engineering	3

Third Term

15 Credits

PHI2604	Critical Thinking/Ethics	3
MAC2313	Calculus 3	4
PHY2048	Physics with Calculus 1	4
PHY2048L	Physics with Calculus 1 Lab	1
ETD1340	AutoCAD	3

Fourth Term

15 Credits

PHI2010	Introduction to Philosophy	3
MAP2302	Differential Equations	3
PHY2049	Physics with Calculus 2	4
PHY2049L	Physics with Calculus 2 Lab	1
GLY1010	Physical Geology	3
GLY1010L	Physical Geology Lab	1

Fifth Term*

15 Credits

PSY2012	Introduction to Psychology	3
ECO2013	Principles of Macro-Economics	3
EGN2312	Engineering Statics	4
BSC2010	Principles of Biology 1	3
BSC2010L	Principles of Biology 1 Lab	2

Sixth Term*

8 Credits

SUR1101C	Surveying 1	3
CHM1046	General Chemistry 2	3
CHM1046L	General Chemistry 2 Lab	2

NOTE: Some classes have pre-requisite or co-requisite requirements which may or may not be listed on the program sheet. It is the students responsibility to find out which classes do have these said requirements and consult with the engineering advisor prior to starting the program.

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