

## Associate in Arts Pathway to a major in Geomatics Engineering (10909) 2015—2016

### About the Major

Geomatics engineers also known as land surveyors and mappers, design, develop, and operate systems for collecting and analyzing spatial information about the land, the oceans, infrastructure, natural resources, manmade features and the environment. The tasks more closely related to civil engineering include the design and layout of public infrastructure and urban subdivisions, and mapping and control surveys for construction projects.



### Areas of Specialization

- ◆ Positioning and navigation
- ◆ Digital imaging
- ◆ Land tenure systems
- ◆ Geodesy
- ◆ Geographical information systems
- ◆ Construction
- ◆ Sustainability

### What can I do with this degree

Geomatics engineers can use advanced positioning and electronic distance and angle instrumentation for precise measurements in industry, engineering, mining, property development, and boundary delimitation projects. As a geomatics engineer, you'll have global opportunities to work in areas such as telecommunications, oil and gas, scientific research, and more.



### Earn This Degree and Work as...

Surveyors	<b>\$56,230</b>
Cartographers	<b>\$57,440</b>
Geomatics Engineer	<b>\$79,340</b>
Geoscientist	<b>\$90,890</b>

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

## A.A. Pathway to a major in Geomatics Engineering Program Code 10909

Total credits required for the degree is 60.

The geomatics engineering curriculum will help students apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge.

### 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
CHM1045L	General Chemistry 1 Lab	2
PHY2048	Physics with Calculus 1	4
PHY2048L	Physics with Calculus 1 Lab	1
BSC2010L	Principles of Biology 1 Lab	2
PHY2049	Physics with Calculus 2	4
PHY2049L	Physics with Calculus 2 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:

SUR1101C	Surveying 1	3
GLY1010	Physical Geology	3
GLY1010	Physical Geology Lab	1

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
PSY2012	Introduction to Psychology	3
MAC2313	Calculus 3	4
PHY2048	Physics with Calculus 1	4
PHY2048L	Physics with Calculus 1 Lab	1

### Fourth Term

14 Credits

PHI2010	Introduction to Philosophy	3
MAP2302	Differential Equations	3
PHY2049	Physics with Calculus 2	4
PHY2049L	Physics with Calculus 2 Lab	1
SUR1101C	Surveying 1	3

### Fifth Term\*

12 Credits

ECO2013	Principles of Macro-Economics	3
BSC2010	Principles of Biology 1	3
BSC2010L	Principles of Biology 1 Lab	2
GLY1010	Physical Geology	3
GLY1010L	Physical Geology Lab	1

**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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