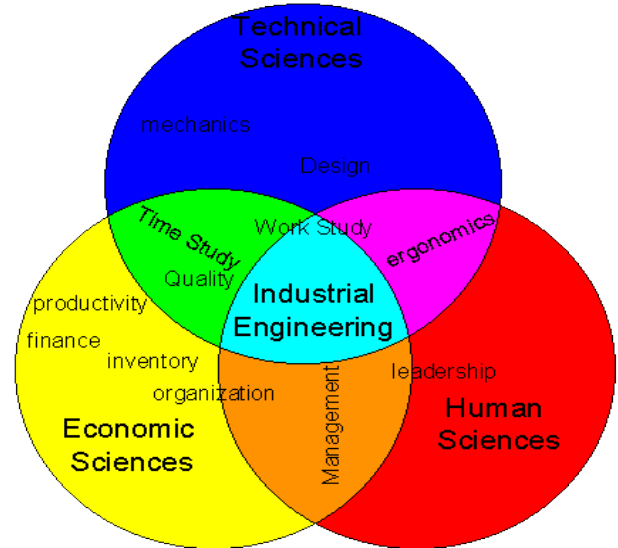


# Associate in Arts Pathway to a major in **Industrial Engineering (10912)** **2015—2016**

## About the Program

The industrial engineering curriculum covers the principal concepts of engineering economics and project management, facilities planning, human performance, mathematical and simulation modeling, production control, applied statistics and quality, and contemporary production processes that are applied to solve the challenges presented by the global environment and economy of today. The curriculum stresses the application of contemporary tools and techniques in solving engineering problems.



## Areas of Specialization

- ◆ Quality
- ◆ Work Design and Ergonomics
- ◆ Project Management
- ◆ Operations Research
- ◆ Manufacturing
- ◆ Simulation
- ◆ Economic Analysis

## The Advantages of this Degree

Industrial engineering majors learn how to improve the way factories, hospitals, and other organizations run. They learn to take all factors into account -- from equipment and materials to people, they are the ones that organize the people, information, energy, materials, and machines involved in the production process. They are concerned with plant design and management, quality control, and the human factors of engineering. Industrial engineers perform tasks such as finding the best location for a high-tech company's new plant.



## Earn This Degree and Work as...

Position	Median Salary
Systems/Safety Engineer	\$76,830
Management Analyst	\$78,600
Industrial Engineer	\$78,860
Industrial Production Manager	\$89,190

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

## A.A. Pathway to a major in Industrial Engineering Program Code 10912

Total credits required for the degree is 60.

The Industrial Engineering pathway prepares students to enter a Engineering degree granting institution. It is considered the "peoples" engineering, as it is ideal for those who enjoy both technology and working with people. Industrial engineers frequently spend as much time interacting with other engineers and product users as they do at their desks and computers. Typical work involves developing applied models and simulations of processes to evaluate overall system efficiency.

### 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
COP2270	"C" for Engineers	4
EGN1008C	Intro to Engineering	3
ETD1340	AutoCAD	3
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:

BSC2010L	Principles of Biology 1 Lab	2
PHY2049	Physics with Calculus 2	4
PHY2049L	Physics with Calculus 2 Lab	1
EGN2312	Engineering Statics	4
EGS2321	Engineering Dynamics	4

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
COP2270	"C" for Engineers	4

### Fifth Term\*

15 Credits

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

**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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