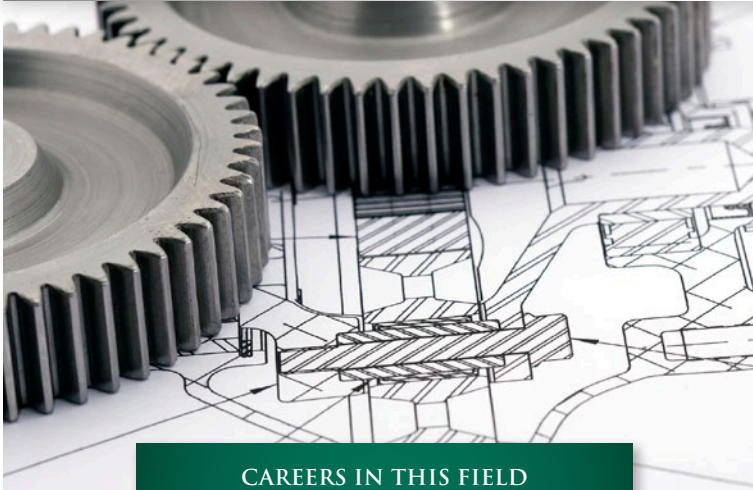


## PRE-ENGINEERING



### CAREERS IN THIS FIELD

*Transfer Degree*

### WHAT IS THE PRE-ENGINEERING PROGRAM?

Whether your career goal is to be an electrical, mechanical, civil, computer or any other engineer the Pre-Engineering program can be a stepping stone on your path to success. This program is designed to prepare you for transfer to baccalaureate engineering degree programs and provides a strong foundation in science, mathematics and engineering, which allows students to take the first two years of an engineering program at Ivy Tech Community College before transferring into a four-year engineering degree. Special emphasis is placed on qualitative and quantitative analytical skills necessary in engineering design and problem solving while working in a cooperative team environment. The program will also focus on the applied aspects of science and engineering.

### WHY CHOOSE THE PRE-ENGINEERING PROGRAM?

You cannot make an educated decision about what engineering career to pursue without adequate information. Pre-Engineering program provides you an introduction to study a variety of engineering fields e.g. electrical, mechanical, civil, computer, etc. In addition to vital engineering information, it provides a strong foundation in science and mathematics.

This is an exciting time to be involved in this field. Earning an associate degree will prepare you to transfer to several engineering programs at four-year institutions and lead to well-paying jobs in various professional engineering careers.

*To learn more about employment and salary information for careers in this field, visit the U.S. Department of Labor's Bureau of Labor Statistics website at [bls.gov](http://bls.gov) and the official career site of the State of Indiana, [indianacareerconnect.com](http://indianacareerconnect.com).*



### ASSOCIATE OF SCIENCE IN PRE-ENGINEERING

The Associate of Science degree prepares you for transfer to a university to pursue a baccalaureate degree. The curriculum offers a strong foundation in the fundamental areas such as science, mathematics and engineering. The Associate of Science degree in Pre-Engineering transfers to several Indiana public and private colleges and universities.

To find out information about your transfer options to public and private universities, contact your academic advisor or Pre-Engineering program chair Ivy Tech Lafayette. You are also encouraged to contact the institution and consult the current catalog and web page of the institution to which you wish to transfer.

### FOR MORE INFORMATION:

**David R. Ely, Ph.D.**  
*Program Chair & Assistant Professor*  
**Pre-Engineering**  
(765) 269-5168  
[dely7@ivytech.edu](mailto:dely7@ivytech.edu)



**IVY TECH**  
COMMUNITY  
COLLEGE

# PRE-ENGINEERING

For more information on course offerings, enrollment, or the Pre-Engineering program in the Lafayette region, visit [www.ivytech.edu/lafayette](http://www.ivytech.edu/lafayette) or call (765) 269-5014.

## SYMBOL KEY

\* Fall Only

\*\* Spring Only

\*\*\* Course not offered at Lafayette

† Students may consider taking these courses during the summer

## ASSOCIATE OF SCIENCE (AS) DEGREE

Suggested Pre-Engineering Course Sequence for transfer into Mechanical or Civil Engineering at Purdue University-North Central

### Semester 1 15 Credits

ENGR 190*	Introduction to Engineering Design	2
ENGR 140*	Engineering Software Tool I (C++)	3
IVYT 1XX†	Student Success Elective	1
MATH 211	Calculus I	4
CHEM 105	General Chemistry I	5

### Semester 2 17 Credits

ENGL 111†	English Composition	3
MATH 212**	Calculus II	4
PHYS 220**	Mechanics	5
ENGR 160**	Engineering Software Tool II (MATLAB)	3
ENGR 116	Geometric Modeling for Visualization	2

### Semester 3 15 Credits

MATH 261*	Multivariate Calculus	4
PHYS 221*	Heat, Electricity, and Optics	5
XXXX XXX†	Social/Behavioral Ways of Knowing Elective	3
ENGR 260*	Vector Mechanics – Statics	3

### Semester 4 13 Credits

COMM 101†	Fundamentals of Public Speaking	3
ENGR 279**	Capstone Course	1
MATH 264**	Differential Equations	3
PHIL 102†	Introduction to Ethics	3
ENGR 261	Dynamics	3

**Total: 60 Credits**

## ASSOCIATE OF SCIENCE (AS) DEGREE

Suggested Pre-Engineering Course Sequence for transfer into Electrical Engineering at Purdue University – North Central

### Semester 1 15 Credits

ENGR 190*	Introduction to Engineering Design	2
ENGR 140*	Engineering Software Tool I (C++)	3
IVYT 1XX†	Student Success Elective	1
MATH 211	Calculus I	4
CHEM 105	General Chemistry I	5

### Semester 2 17 Credits

ENGL 111†	English Composition	3
MATH 212**	Calculus II	4
PHYS 220**	Mechanics	5
ENGR 160**	Engineering Software Tool II (MATLAB)	3
ENGR 116	Geometric Modeling for Visualization	2

### Semester 3 15 Credits

MATH 261*	Multivariate Calculus	4
PHYS 221*	Heat, Electricity, and Optics	5
XXXX XXX†	Social/Behavioral Ways of Knowing Elective	3
ENGR 260*	Vector Mechanics – Statics	3

### Semester 4 14 Credits

COMM 101†	Fundamentals of Public Speaking	3
ENGR 279**	Capstone Course	1
MATH 264**	Differential Equations	3
PHIL 102†	Introduction to Ethics	3
ENGR 251***	Electrical Circuits I	4

**Total: 61 Credits**

## FOR MORE INFORMATION:

**David R. Ely, Ph.D.**

*Program Chair & Assistant Professor*

**Pre-Engineering**

(765) 269-5168

[dely7@ivytech.edu](mailto:dely7@ivytech.edu)

