

# PRE-ENGINEERING

This comprehensive two-year program prepares students for entrance into professional engineering schools. It is designed to extend the scope of student undergraduate education by avoiding premature specialization. Required courses emphasize fundamental knowledge and skills in calculus, geometry, algebra, trigonometry, statistics, dynamics, electrical/mechanical principles, thermodynamics, engineering graphics and design, physics, chemistry, humanities, and the social sciences.

## Degrees & Certificates Offered (Southwest Region):

Associate of Science (AS)

*Two-year Associate of Science programs typically contain 40 percent or more general education, with the balance in technical and profession courses. The coursework provides students with a foundation for transfer to a related baccalaureate program at a four-year institution, and equips students with skills for the job market.*

## Our Graduates

It is anticipated that almost all graduates of the Associate of Science Degree in Engineering program will transfer to a four-year university to continue their education. However, for a number of graduates, the AS degree will be a tool with which they can market themselves to local employers, many of whom have tuition refund programs to support employee education.

Credits from individual Ivy Tech classes transfer to colleges and universities throughout Indiana—and in some cases, entire programs transfer. Whether you are considering a program with a career in mind or want to save money by starting your bachelor's degree at Ivy Tech, transfer options are a great way to get started.



[IVYTECH.EDU/ENGINEERING-TECHNOLOGY](http://IVYTECH.EDU/ENGINEERING-TECHNOLOGY)  
888-IVY-LINE

## CONTACT INFORMATION

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# PRE-ENGINEERING PATHWAY

## ASSOCIATE OF SCIENCE—TRANSFER TO UNIVERSITY OF EVANSVILLE

68-70 Credit Hours

### FIRST YEAR

#### Fall Semester

ENGR 190	Intro to Engineering Design
ENGR 140	Engineering Software Tools I
MATH 211	Calculus I
CHEM 105	General Chemistry I
ENGL 111	English Composition
IVYT 1XX	Student Success Elective

#### Spring Semester

ENGR 116	Geometric Modeling for Visualization
ENGR 160	Engineering Software Tools II
MATH 212	Calculus II
COMM 101	Fundamentals of Public Speaking
or	
COMM 102	Intro. To Interpersonal Communications

### SECOND YEAR

#### Fall Semester

ENGR 251	Electrical Circuits I
ENGR 260	Vector Mechanics-Statics
MATH 261	Multivariate Calculus
PHYS 220	Mechanics
HIST 101	Survey of American History I
or	
SOCI 111	Introduction to Sociology

#### Spring Semester

ENGR 252	Electrical Circuits II
ENGR 261	Dynamics
ENGR 279	Capstone Course
MATH 264	Differential Equations
PHYS 221	Heat, Electricity, and Optics
PHIL 101	Introduction to Philosophy
or	
PHIL 102	Introduction to Ethics

## ASSOCIATE OF SCIENCE—TRANSFER TO UNIVERSITY OF SOUTHERN INDIANA

68-70 Credit Hours

### FIRST YEAR

#### Fall Semester

ENGR 190	Intro to Engineering Design
ENGR 140	Engineering Software Tools I
MATH 211	Calculus I
CHEM 105	General Chemistry I
ENGL 111	English Composition
IVYT 1XX	Student Success Elective

#### Spring Semester

ENGR 116	Geometric Modeling for Visualization
ENGR 160	Engineering Software Tools II
MATH 212	Calculus II
ENGL 112	Exposition and Persuasion
COMM 101	Fundamentals of Public Speaking

### SECOND YEAR

#### Fall Semester

ENGR 251	Electrical Circuits I
ENGR 260	Vector Mechanics-Statics
MATH 261	Multivariate Calculus
PHYS 220	Mechanics
ECON 201	Principles of Macroeconomics
or	
ECON 202	Principles of Microeconomics

#### Spring Semester

ENGR 261	Dynamics
ENGR 279	Capstone Course
MATH 264	Differential Equations (USI)
PHYS 221	Heat, Electricity, and Optics
ENGR 252	Electrical Circuits II (for BSE Electrical)
or	
PHIL 102	Introduction to Ethics (for Non-Electrical)

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*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).*

*Ivy Tech Community College is accredited by North Central Association of Colleges and Schools.*

