Industrial Engineering, A.S.

Degree Offered

- Associate of Science

Nature of the Program

What sets industrial engineering apart from other engineering disciplines is its broader scope. An industrial engineer deals with people as well as things, relating to the total picture of productivity and quality improvement. Productivity in its simplest terms means producing the most for the least input at the best quality.

An industrial engineer looks at the "big picture" of what makes society perform best - the right combination of human resources, natural resources, and man-made structures and equipment. Professionals in this field bridge the gap between management and operations, motivating people in addition to determining what equipment, computers, etc., should be used and how they should be used.

The associate degree program provides the foundation to complete a bachelor's program in industrial engineering at West Virginia University. Students planning to enter a bachelor program at another institution should determine the transfer equivalencies for the courses offered at Potomac State College of WVU and the institution they plan to attend following completion of the associate degree program

Career Opportunities

Industrial engineers have a broad array of opportunities in the marketplace. Traditionally, most industrial engineers started their careers in manufacturing facilities, but this trend has been changing. Today about half of the industrial engineers are employed in the service sector while the other half begin their careers in manufacturing.

FACULTY

CHAIR

- Erin Cunningham - M.S. Biology
  Year @ PSC (2007)

PROFESSORS

- Mohammad Saifi - M.S. Electrical Engineering
  Year @ PSC (1983)
- Joan Vogtman - M.S. Applied Physics
  Year @ PSC (2008)

General Education Foundations

Please use this link to view a list of courses that meet each GEF requirement. **(**http://registrar.wvu.edu/gef/**)**

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

Code	Title	Hours
General Education Foundations		
F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
or ENGL 103	Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Reasoning		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

Code	Title	Hours
GEF Elective (5, 6 or 7)		**3**
ENGL 101 & ENGL 102	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research (GEF 1)	6
MATH 155	Calculus 1 (GEF 3 - minimum grade of C-)	4
MATH 156	Calculus 2 (GEF 8- minimum grade of C-)	4
MATH 251	Multivariable Calculus (minimum grade of C-)	4
MATH 261	Elementary Differential Equations	4
CHEM 115 & 115L	Fundamentals of Chemistry 1 and Fundamentals of Chemistry 1 Laboratory (GEF 2)	4
PHYS 111 & 111L	General Physics 1 and General Physics 1 Laboratory (GEF 8)	4
PHYS 112 & 112L	General Physics 2 and General Physics 2 Laboratory (GEF 8)	4
ECON 201	Principles of Microeconomics (GEF 4)	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem-Solving 2	3
ENGR 191	First-Year Seminar	1
Elective		1
A minimum GPA of 2.0 is required in the following courses:		
EE 221	Introduction to Electrical Engineering	3
EE 221L	Introduction to Electrical Engineering Laboratory	1
MAE 241	Statics	3
MAE 242	Dynamics	3
MAE 243	Mechanics of Materials	3
Total Hours		60

Suggested Plan of Study

First Year

Fall	Hours	Spring	Hours
ENGL 101 (GEF 1)	3	ENGL 102 (GEF 1)	3
ENGR 101	2	ENGR 102	3
MATH 155 (GEF 3)	4	MATH 156 (GEF 8)	4
CHEM 115 & 115L (GEF 2)	4	PHYS 111 & 111L (GEF 8)	4
ENGR 191	1	Elective	1
	14		15

Second Year

Fall	Hours	Spring	Hours
MATH 251	4	MATH 261	4
PHYS 112 & 112L (GEF 8)	4	ECON 201 (GEF 4)	3
MAE 241	3	MAE 242	3
EE 221	3	MAE 243	3
EE 221L	1	GEF Elective (5, 6 or 7)	3
	15		16

Total credit hours: 60

Major Learning Outcomes

INDUSTRIAL ENGINEERING

Upon completion of the associate degree in industrial engineering, students will be able to:

1. Apply knowledge of mathematics, science, and engineering
2. Analyze and interpret data
3. Use mathematical, chemical and physical concepts to solve engineering-related problems.
4. Transfer into a bachelor degree program in industrial engineering.