

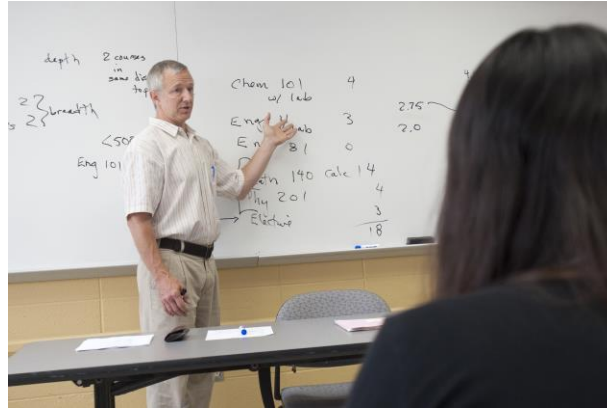
# ENGINEERING

## undergraduate program

Students pursuing a Bachelor of Science Degree in Engineering will complete 60-72 credits at Pitt-Bradford. Once this is accomplished as well as earning a minimum 3.0 Grade Point Average, students can apply for relocation to the University of Pittsburgh's Swanson School of Engineering in Pittsburgh to finish their degree requirements.

**Employment Opportunities:**

Application Engineer  
Associate Planner  
Biomedical Engineer  
Civil Engineer  
Conservation Engineer  
Controls Engineer  
Design Engineer  
Distribution Engineer  
Electrical Engineer  
Environmental Engineer  
Fleet Engineer  
Food Engineer  
Illuminating Engineer  
Manufacturing Engineer  
Mechanical Engineer  
Molding Analysis Engineer  
Node Specialist  
Packaging Engineer  
Pharmaceutical Engineer  
Plant Process Engineer  
Process Engineer  
Product Application Engineer  
Project Engineer  
QC Lab Technician  
Research Engineer  
Sales Engineer  
Service Manager  
Software Engineer  
Systems Engineer  
Task Engineer  
Test Engineer  
Trust Designer



Engineering is about creating new solutions to existing or future problems. Engineers are problem solvers who employ science, math, analysis and synthesis to design unique and practical solutions to everyday problems. They must accomplish this often under the constraints of time, budgets, and safety and health issues.

Engineers also must be

concerned about the environmental, political and social impact their answers will create.

Engineering majors at Pitt-Bradford complete a two-year program that involves courses in engineering, chemistry, calculus, and physics. After completing the two years students can relocate to the School of Engineering at the University of Pittsburgh in Pittsburgh to complete a bachelor's degree in chemical and petroleum engineering, computer engineering, mechanical engineering, civil and environmental engineering, or electrical engineering.

**Required Skills:**

- Mathematics
- Problem Solving
- Communications (Written & Oral)
- Organization
- Time Management
- Leadership

**Possible Employers:**

- Corporation
- Industry
- Design Firm
- Government
- Research Firm
- Military
- Manufacturing Firm
- College or University

**PROFESSIONAL ORGANIZATIONS:**

The Institute of Electrical and Electronic Engineering  
American Society of Civil Engineers  
American Society of Mechanical Engineers  
American Society of Chemical Engineers

[www.ieee.org](http://www.ieee.org)  
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[www.bls.gov/ocos027.htm](http://www.bls.gov/ocos027.htm)  
[www.upb.pitt.edu/career/asp](http://www.upb.pitt.edu/career/asp)

## Engineering (BS) – Curriculum Guide

**Student Name:**

**Advisor:**

### REQUIREMENTS FOR ALL MAJORS-FIRST YEAR

#### FIRST TERM

- CHEM 0101 General Chemistry I (4)
- ENGR 0015 Introduction to Engineering Analysis I (3)
- ENGR 0081 Engineering Seminar (0)
- MATH 0140 Calculus I (4)
- PHYS 0201 Foundations of Physics I (4)
- Humanities or social science elective course

#### SECOND TERM

- CHEM 0102 General Chemistry II (4)
- ENGR 0016 Introduction to Engineering Analysis II (3)
- ENGR 0082 Engineering Seminar (0)
- MATH 0150 Calculus II (4)
- PHYS 0202 Foundations of Physics II (4)
- Humanities or social science elective course

### SECOND YEAR REQUIREMENTS

#### MECHANICAL ENGINEERING

- ME 0024 Introduction to Mechanical Engineer Design (3)
- MEMS 0051 Introduction to Thermodynamics (3)
- ECE 0031 Linear Circuits I (4)
- ENGR 0022 Material Structure and Properties (3)
- ENGR 0135 Statics and Mechanics of Materials I (3)
- ENGR 0145 Statics and Mechanics of Materials II (3)
- ENGR 0085 Engineering Seminar (0)
- MATH 0201 Calculus III (4)
- MATH 0202 Ordinary Differential Equations (3)
- MATH 0206 Linear Algebra (3)
- Humanities or social science elective course

#### CIVIL & ENVIRONMENTAL ENGINEERING

- CE 0109 Computer Methods in Civil Engineering I (3)
- ENGR0022 Material Structure and Properties (3)
- ENGR 0131 Statics for Civil and Environmental Eng. (3)
- ENGR 0141 Mech. of Materials for Civil and Env. Eng. (3)
- ENGR 0085 Engineering Seminar (0)
- ECON 0102 Introductory Microeconomics (3)
- MATH 0201 Calculus III (4)
- MATH 0202 Ordinary Differential Equations (3)
- MATH 0206 Linear Algebra (3)
- Humanities or social science elective courses

#### CHEMICAL & PETROLEUM ENGINEERING

- CHE 0035 Introductory Chemical Engineering (4)
- CHE 0036 Thermodynamics (3)
- CHE 1008 Introduction to Staged Separations (3)
- CHEM 0206/0207 Organic Chemistry I & Lab (4)
- CHEM 0208/0209 Organic Chemistry II & Lab (4)
- ENGR 0135 Statics and Mechanics of Materials I (3)
- ENGR 0085 Engineering Seminar (0)
- MATH 0201 Calculus III (4)
- MATH 0202 Ordinary Differential Equations (3)
- MATH 0206 Linear Algebra (3)
- Humanities or Social Science Elective

#### ELECTRICAL ENGINEERING

- ECE 0031 Linear Circuits I (4)
- ECE 0041 Linear Circuits II (3)
- ECE 0132 Digital Logic (3)
- ECE 0142 Computer Organization (3)
- ECE 0257 Analysis and Design of Electronic Circuits (3)
- ENGR 0085 Engineering Seminar (0)
- MATH 0201 Calculus III (4)
- MATH 0202 Ordinary Differential Equations (3)
- MATH 206 Linear Algebra (3)
- Humanities or social science elective courses

#### COMPUTER ENGINEERING

- CIST 0150 Programming Fundamentals (3)
- ECE 0031 Linear Circuits I (4)
- ECE 0041 Linear Circuits II (3)
- ECE 0132 Digital Logic (3)
- ECE 0142 Computer Organization (3)
- ECE 0257 Analysis and Design of Electronic Circuits (3)
- ENGR 0085 Engineering Seminar (0)
- MATH 0202 Ordinary Differential Equations (3)
- MATH 0206 Linear Algebra (3)
- Humanities or social science elective courses