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 www.ieee.org
American Society of Civil Engineers www.asce.org
American Society of Mechanical Engineers www.asme.org
American Society of Chemical Engineers www.aiche.org

**FIND OUT MORE ABOUT CAREERS IN ENGINEERING AT:**
Try Engineering www.tryengineer.org
Career Services www.upb.pitt.edu/career/aspx
# Engineering (BS) – Curriculum Guide

<table>
<thead>
<tr>
<th>Student Name:</th>
<th>Advisor:</th>
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## REQUIREMENTS FOR ALL MAJORS-FIRST YEAR

<table>
<thead>
<tr>
<th>FIRST TERM</th>
<th>SECOND TERM</th>
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<tbody>
<tr>
<td>CHEM 0101 General Chemistry I</td>
<td>CHEM 0102 General Chemistry II</td>
</tr>
<tr>
<td>ENGR 0015 Engineering Analysis I</td>
<td>ENGR 0016 Engineering Analysis II</td>
</tr>
<tr>
<td>ENGR 0081 Engineering Seminar</td>
<td>ENGR 0082 Engineering Seminar</td>
</tr>
<tr>
<td>MATH 0140 Calculus I</td>
<td>MATH 0150 Calculus II</td>
</tr>
<tr>
<td>PHYS 0201 Foundations of Physics I</td>
<td>PHYS 0202 Foundations of Physics II</td>
</tr>
<tr>
<td>Humanities or social science elective course</td>
<td>Humanities or social science elective course</td>
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</tbody>
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## SECOND YEAR REQUIREMENTS

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

### CIVIL & ENVIRONMENTAL ENGINEERING
- CE 0109 Computer Methods in Civil Engineering I
- ENGR0022 Material Structure and Properties
- ENGR 0131 Statics for Civil and Environmental Engineers
- ENGR 0085 Engineering Seminar
- ECON 0102 Introductory Microeconomics
- MATH 0201 Calculus III
- MATH 0202 Ordinary Differential Equations
- MATH 0206 Linear Algebra
- Humanities or social science elective courses

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

### ELECTRICAL ENGINEERING
- ECE 0031 Linear Circuits I
- ECE 0041 Linear Circuits II
- ECE 0132 Digital Logic
- ECE 0142 Computer Organization
- ECE 0257 Analysis and Design of Electronic Circuits
- ENGR 0085 Engineering Seminar
- MATH 0201 Calculus III
- MATH 0202 Ordinary Differential Equations
- MATH 0206 Linear Algebra
- Humanities or social science elective courses

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