

# The Charles V. Schaefer, Jr. School of Engineering

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## **Bachelor of Engineering**

The degree of Bachelor of Engineering (BE) is offered in the following nine programs. The areas of focus can be achieved by selecting appropriate elective courses.

### **Biomedical Engineering Program**

### **Chemical Engineering Program\***

Areas of Focus:

- Chemical Engineering
- Biochemical Engineering
- Materials Engineering

### **Civil Engineering Program\***

Areas of Focus:

- Construction Management
- Water Resources Engineering
- Structural Engineering
- Environmental Engineering
- Ocean Engineering
- Geotechnical Engineering

### **Computer Engineering Program\***

Areas of Focus:

- Computer Systems and Architectures
- Data Networks and Information Systems
- Software/Software Engineering
- Digital Systems

### **Electrical Engineering Program\***

Areas of Focus:

- Telecommunications
- Data Networks

Signal Processing  
Electronic Circuits

### **Engineering Program\***

#### **Concentrations:**

Biomedical Engineering  
Information Systems Engineering  
Naval Engineering

### **Engineering Management Program\***

Areas of Focus:  
Information Systems Management  
Systems Engineering

### **Environmental Engineering Program\***

Areas of Focus:  
Groundwater Pollution  
Environmental Hydrodynamics  
Biological and Physicochemical Processes

### **Mechanical Engineering Program\***

Areas of Focus:  
Design and Manufacturing  
Energy Systems  
Machine Systems  
Robotics

\* Note: The asterisk indicates programs which are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 — Tel (410) 347-7700

#### **Minors**

Biochemical Engineering  
Chemical Engineering  
Coastal Engineering  
Computer Engineering  
Electrical Engineering  
Engineering Management  
Environmental Engineering  
Structural Engineering  
Water Resources

### **Master of Engineering**

## **Biomedical Engineering**

### **Chemical Engineering**

- Chemical Engineering
- Polymer Engineering

### **Civil Engineering**

- Geotechnical/Geoenvironmental Engineering
- Structural Engineering
- Water Resources Engineering
- Construction Management (Interdisciplinary)

### **Computer Engineering**

- Computer Systems
- Data Communications and Networks
- Digital Systems Design
- Engineered Software Systems
- Image Processing and Multimedia
- Information Systems Security
- Intelligent Systems

### **Electrical Engineering**

- Computer Architecture and Digital System Design
- Microelectronics and Photonics Science and Technology (Interdisciplinary)
- Signal Processing for Communications
- Telecommunications System Engineering
- Wireless Systems
- Embedded Systems

### **Engineering Management**

- Systems Engineering Management
  - Systems Engineering and Architecting
  - Value Chain Enterprise Systems
  - Project Management

### **Environmental Engineering**

- Environmental Process
- Groundwater and Soil Pollution Control
- Inland and Coastal Environmental Hydrodynamics

### **Integrated Product Development**

- Armament Engineering
- Electrical and Computer Engineering
- Manufacturing Technologies
- Systems Reliability and Design

### **Materials Engineering**

- Microelectronics and Photonics Science and Technology (Interdisciplinary)

### **Mechanical Engineering**

- Manufacturing Systems

## **Networked Information Systems**

- Data Communication Networks
- Information Networks
- Multimedia Information Systems
- Multimedia Technologies
- Network Systems Technologies
- Networked Information Systems
- Networked Information Systems: Business Practices
- Secure Network Systems

## **Ocean Engineering**

- Coastal Engineering
- Hydrodynamics
- Naval Architecture
- Oceanography

## **Product Architecture and Engineering**

### **Systems Engineering**

- Agile Systems Engineering and Design
- Systems Engineering Management
- Systems Engineering and Architecture
- Engineering Value Chain Enterprise Systems
  - System and Supportability Engineering

## **Master of Science**

### **Construction Management (Interdisciplinary)**

#### **Maritime Systems**

- Environmental Engineering
- Structural Engineering
- Management
- Marine Transportation

## **Engineer**

Chemical Engineer  
Civil Engineer  
Computer Engineer  
Electrical Engineer  
Mechanical Engineer

## **Doctor of Philosophy**

Biomedical Engineering  
Chemical Engineering  
Civil Engineering  
Computer Engineering  
Electrical Engineering  
Engineering Management

Environmental Engineering  
Materials Engineering  
Mechanical Engineering  
Ocean Engineering  
Systems Engineering