

## Contact

**Hemant Pendse**, Chair  
 Department of Chemical & Biological  
 Engineering  
 5737 Jenness Hall, Room 117  
 Orono, ME 04469-5737

207-581-2290  
 FAX: 207-581-2323

E-mail: [pendse@maine.edu](mailto:pendse@maine.edu)  
 Web site: <http://www.umche.maine.edu/chb>

## Admission Requirements

(In years as established by the college)

A high school diploma with the following specific courses:

- 4 English
- 2 Algebra I & II
- 1 Geometry
- 1/2 Trigonometry
- 2 Lab Science (*chemistry & physics*)
- 2 History/Social Studies
- Academic electives (*to equal at least 17 total credits*)

*To ensure current mathematical skills, students should take a mathematics course during their senior year of high school.*

## Major Requirements

- 17 credits Pulp & Paper Technology
- 37 credits Engineering
- 58 credits Sciences & Mathematics
- 21 credits Humanities & Social Sciences

*132 Minimum total credit hours required for graduation*

## College of Engineering

### Program Description

The Department of Chemical Engineering at the University of Maine pioneered the first program to study pulp and paper engineering in the United States, and continues to provide instruction in the multidisciplinary application of engineering sciences to the varied and complex operations of this forest resources industry. The modern and extensive paper industry within the state of Maine provides an exceptional opportunity for cooperative interaction of university-based programs with real life problems of industrial operations and development.

Students with a special interest in this industry, and whose commitment to the full curriculum for the Bachelor of Science degree in chemical engineering is subordinate to other goals, can elect a four-year educational program leading to the degree of Bachelor of Science in Pulp and Paper Technology. This curriculum is process engineering oriented. Specialized courses designed for work specifically in this industry are substituted for some of the science and engineering courses which are required in chemical engineering.

### Career Opportunities

Manufacture of pulp and paper products from wood and other fiber resources is one of the largest industries in the United States and the world. It depends upon chemical engineering for research, design and management of a wide range of both organic and inorganic chemical processes in complex and integrated systems.

### General Education Requirements\*

- ENG 101 College Composition
- 18 credits Human Values & Social Context area (*a single course may satisfy more than 1 sub-category, but a total of 18 credits must be completed*)
  - Western Cultural Tradition
  - Social Context & Institutions
  - Cultural Diversity & International Perspectives
  - Population & the Environment
  - Artistic & Creative Expression
- 2 courses Designated Writing Intensive (*1 must be within the major*)
- 2 courses Biological or Physical Sciences (*must include at least 1 laboratory course*)
- 1 course Ethics (*emphasis on discussion of ethical issues in 1 course or series of courses*)
- 6 credits Mathematics (*including statistics & some computer science, only 3 credits in computer science can count toward this requirement*)
- 1 capstone An approved experience in which the student integrates the components of his or her undergraduate training to perform at a professional level. The capstone experience is usually completed during the senior year in consultation with the student's academic advisor.

*\*All UMaine students must complete these general education requirements, which are counted in the total credit hours required for graduation and may be contained in the Major Requirements previously listed.*

### Specialized Information

Under the New England Regional Student Program, administered through the New England Board of Higher Education, the Bachelor of Science degree in Pulp and Paper Technology is open to applicants who reside in Connecticut, Massachusetts, New Hampshire, Rhode Island or Vermont for reduced tuition (in-state tuition plus 50 percent).

## **Specialized Information (continued)**

The department also offers a minor in Chemical Engineering with concentrations in process engineering or Pulp and Paper Technology. The minor is open to all undergraduate, degree-seeking University of Maine students and requires the completion of 22-23 credit hours. Students with a B.S. have the option of entering the five-year Certificate in Pulp and Paper Management program thereby completing 30 credit hours in Pulp and Paper Technology courses to enhance career opportunities.

## **Graduate Study**

The Department of Chemical and Biological Engineering offers a Master of Science and a Doctor of Philosophy degree in Chemical Engineering and a Master of Science in Biological Engineering. Many B.S. graduates have continued their education at the nation's most competitive graduate schools. Typical choices have been: Cornell University; the Institute of Paper Science and Technology; Johns Hopkins University Medical School; Massachusetts Institute of Technology; Tufts University—both Dental and Medical School; the University of California at Berkeley; the University of Colorado; the University of Delaware; the University of Florida; the University of Maine; the University of Texas, Austin; the University of Vermont Medical School.

### **Academic Programs 2008-2009**

Please refer to the web site (<http://factsheets.umaine.edu/>) for the most updated version of the fact sheets.

This fact sheet is intended for informational purposes only and is subject to change.