

# College of Engineering and Technology

**The College of Engineering and Technology offers undergraduate programs of study leading to baccalaureate degrees as follows:**

**Program of Study and Degree Awarded**

**Civil Engineering** B.S. in Civil Engineering  
(environmental engineering option)

**Construction** B.S. in Construction

**Electrical Engineering** B.S. in Electrical Engineering  
(computer option)

**Engineering Physics** B.S.

**Industrial Engineering** B.S. in Industrial Engineering

**Manufacturing Engineering** B.S. in Manufacturing  
Engineering

**Manufacturing Engineering** B.S. in Manufacturing Tech-  
nology Engineering Technology

**Mechanical Engineering** B.S. in Mechanical Engineering  
(biomedical engineering concentration)

Our mission is to educate and graduate well-integrated individuals who possess the technical and social competence and confidence to succeed in professional practice and advanced education, to be life-long learners, and to exercise responsible citizenship. To accomplish this mission we have established the following objectives:

Our graduates should have:

1. sufficient knowledge and understanding of the appropriate scientific and mathematical fundamentals upon which to develop their professional skills;
2. skill in integrating knowledge and applying this understanding to professionally define problems and produce effective solutions;
3. effective written, oral, and graphic communication skills;
4. awareness and understanding of diverse cultures and social conditions, past and present, in which their professional and personal endeavors will take place;
5. commitment to continuing professional growth and the ethical development of their chosen discipline.

Objectives of the undergraduate curricula focus on the attainment of professional competence, the achievement of

intellectual maturity and personal growth, and the development of social responsibility. All the College's programs seek to facilitate creative communication between technologists, engineers, and scientists and those educated in the liberal arts and other disciplines. The College's courses provide the basic bodies of knowledge with which the methods and philosophies of engineering and engineering technology are developed. The education stresses professionalism both for today and for the future.

General and special entrance requirements are listed in the admissions section of the catalog. For graduation, students in the College must satisfy Bradley's all-University degree requirements as specified elsewhere in this catalog as well as the specific degree requirements of the program in which they major. The programs' requirements, which incorporate requirements of appropriate professional accrediting agencies, are listed in their respective curriculum sections of this catalog. Effective academic advisement is stressed in the College; students are required to consult regularly with their academic advisor to plan their course schedules. However, students are individually responsible for insuring that their program's requirements are met.

Specific college requirements are:

1. A minimum gradepoint average of 2.00 (C) must be earned in all courses taken in the College of Engineering and Technology. (See departmental program descriptions for additional requirements.)
2. All students majoring in programs in the College of Engineering and Technology are required to pass, while at Bradley, a minimum of one junior or senior level course in which writing of papers, essays, and the like is given substantial emphasis and critical evaluation.

Community college transfer students entering the College of Engineering and Technology with adequate preparation can complete their degree requirements in approximately two years. Such persons are urged to consult as early as possible with the Bradley department in which they will seek a major to make sure they meet the transfer admission requirements of their intended major. Because the fields of engineering and engineering technology are dynamic and rapidly changing, students transferring into the College from other programs in the University are usually expected to complete their major's

graduation requirements as found at the time of transfer. A change of major may result in a change of requirements.

Students who maintain continuous enrollment and who complete work toward the baccalaureate degree within five years from the date of entry may graduate under either the catalog in effect at the time of entrance or under the catalog in effect at the time of graduation. A change in major could mean meeting new requirements in force at the time of the change as a condition for acceptance into that major. Students whose work has been interrupted for one or more semesters may be held to requirements in effect at the time of their re-enrollment.

In addition to the undergraduate programs described in this catalog, the College offers graduate work leading to Master of Science degrees in civil, electrical, industrial, mechanical, and manufacturing engineering. These graduate programs are described in detail in the Graduate Catalog.

## Special Academic Programs

### Cooperative Education

The College participates with employers in an optional Cooperative Education Program. Students alternate periods of full-time study with full-time employment. The program provides academic- or career-related work experiences. To be eligible, the student must have sophomore standing and a 2.0 minimum overall gradepoint average at Bradley. Students must have authorization to work in the United States.

### Internships

Engineering internships provide engineering and technology students in good academic standing (2.0 gradepoint average or better) an opportunity to participate in a full-time internship semester and/or summer away from campus providing career-related work experience. This internship is equivalent in work-time to a full-time cooperative education assignment. Interns will be monitored in the same way as EGT cooperative education students. Participating students will enroll in EGT 210, EGT 310, or EGT 410 for zero credit hours. While on a full-time internship assignment, students are considered to have full-time student status, making normal progress toward a degree in a recognized University program, and are entitled to all student privileges at the University. Also while on a full-time internship assignment, students may register for additional hours of classroom study upon departmental approval. Students must have authorization to work in the United States.

### Practicums

Undergraduate students enrolled in chemistry, civil engineering, computer science, construction, electrical engineering, industrial engineering, manufacturing engineering, manufacturing engineering technology, mechanical engineering, and physics have an opportunity for off-campus employment for 10-20 hours per week in the engineering practicum program. Students are assigned technically challenging projects with a

near-term economic payback. Participating students will be enrolled in EGT 200, EGT 300, or EGT 400 for zero credit hours. While participating in the practicum program, students may wish to enroll in fewer credit hours of academic courses. Such students are still considered by the University to have full-time status, making normal progress towards a degree in a recognized University program. However, students who wish to enroll in less than 12 semester hours of credit should consult the director of financial assistance about possible impact on financial aid and/or insurance benefits. Students must have authorization to work in the United States.

## Course Descriptions

**EGT 200 Sophomore Engineering Practicum 0 hrs.**  
Solving technically challenging problems with a near-term economic benefit. Only for students approved for practicum by the Dean's Office. Pass/fail.

**EGT 210 Sophomore Engineering Internship 0 hrs.**  
Full-time internship away from campus for engineering and technology students to gain academic or career-related work experience in industry. May be repeated only with consent of internship coordinator and internship faculty advisor. Satisfactory/Unsatisfactory. Prerequisites: sophomore standing in College of Engineering and Technology, 2.0 overall gradepoint average at Bradley, approval of internship coordinator and internship faculty advisor.

**EGT 300 Junior Engineering Practicum 0 hrs.**  
Solving technically challenging problems with a near-term economic benefit. Only for students approved for practicum by the Dean's Office. Pass/fail.

**EGT 310 Junior Engineering Internship 0 hrs.**  
Full-time internship away from campus for engineering and technology students to gain academic or career-related work experience in industry. May be repeated only with consent of internship coordinator and internship faculty advisor. Satisfactory/Unsatisfactory. Prerequisites: junior standing in the College of Engineering and Technology, 2.0 overall gradepoint average at Bradley, approval of internship coordinator and internship faculty advisor.

**EGT 400 Senior Engineering Practicum 0 hrs.**  
Solving technically challenging problems with a near-term economic benefit. Only for students approved for practicum by the Dean's Office. Pass/fail.

**EGT 410 Senior Engineering Internship 0 hrs.**  
Full-time internship away from campus for engineering and technology students to gain academic or career-related work experience in industry. May be repeated only with consent of internship coordinator and internship faculty advisor. Satisfactory/Unsatisfactory. Prerequisites: senior standing in the College of Engineering and Technology, 2.0 overall gradepoint average at Bradley, approval of internship coordinator and internship faculty advisor.