

COLLEGE OF ENGINEERING AND POLYMER SCIENCE

The College of Engineering and Polymer Science provides educational opportunities at both the undergraduate and graduate levels for students who wish to pursue careers in engineering and polymer science. Faculty perform research with the purpose of contributing new knowledge to the fields encompassed by engineering principles. Professional service is in concert with the objectives of the University.

The College's co-operative education program, one of the oldest in the nation, enables student engineers to integrate classroom learning with on-the-job experience while they earn their degrees. Students can alternate semesters of paid employment in their major fields of interest with semesters on campus after they have completed five semesters of study.

College Admission Requirements Admission for Incoming First-Year Students

A new first-year student can receive full admission to the College of Engineering and Polymer Science directly from high school if they meet the following requirements:

- High school GPA of 3.4 or higher
- At least 24 composite ACT or at least 1110 composite SAT
- At least 24 math ACT or at least 560 math SAT

Students interested in engineering who do not meet the academic requirements for direct admission to the College of Engineering and Polymer Science are admitted to The University of Akron as a student with an intended major in engineering, with a pre-admission status. Once a student with pre-admission status meets the admission criteria shown below, that student receives full admission to the College of Engineering and Polymer Science.

Admission for Current UA Students and Transfer Students

Current UA students who have not yet been admitted to the College of Engineering and Polymer Science and students transferring to UA from another institution may apply for the College of Engineering and Polymer Science when they meet the following criteria:

- Complete at least 30 semester hours of coursework post high school
- Complete Calculus 2 with a C- or higher
- Have a 2.3 grade point average in at least three of the following categories:
 - in all coursework
 - in all engineering coursework
 - in all required mathematics coursework
 - in all required science coursework (chemistry, physics, computer science, biology)

Admission of students who do not meet the above requirements will be considered by the dean or representative only if the request originates by a department head or representative.

There are additional requirements for full admission to the Aerospace Systems Engineering program.

Continuation in the Baccalaureate Programs

Probation/Suspension/Dismissal in Engineering

A student's term and cumulative GPA determine whether a student is in good academic standing in the College of Engineering and Polymer Science. Evaluation of status is updated at the end-of-term. Students not in good academic standing in the College may be on probation, suspension, or dismissed from the College of Engineering and Polymer Science. Specific details on the process are found at College of Engineering Academic discipline (probation, suspension, and dismissal) policy (<https://www.uakron.edu/engineering/docs/College%20of%20Engineering%20Academic%20Probation%20and%20Dismissal%20Fall%202018.pdf>).

Engineering and Polymer Science students are also subject to University of Akron probation and dismissal policies (<https://bulletin.uakron.edu/undergraduate/important-policies/grade-policy-credit/>).

Engineering students on engineering and / or UA academic probation may not register for classes without first consulting their engineering academic advisor to agree and document an approved group of courses. Engineering and Polymer Science students on academic probation, suspension, or dismissal have enrollment holds placed on their account and cannot register for classes until such a meeting occurs.

Requirements for Graduation

- Compliance with University requirements (<https://bulletin.uakron.edu/undergraduate/important-policies/graduation-requirements/>)
- Completion of all degree requirements for the specific program, including both the appropriate list of courses and a minimum (depending on program) of 136-140 credits of coursework
- Recommendation of the student's department
- Achievement of 2.00 grade point average in all engineering and polymer science coursework attempted with 4XXX course prefix

Engineering Accreditation

Engineering is a profession in which knowledge of mathematics and natural sciences, gained by study, experience, and practice, is applied, with judgment, to develop ways to economically utilize the materials and forces of nature for the benefit of mankind. Entrance to the engineering profession is normally through a university undergraduate program in one of the disciplines of engineering.

The University of Akron's College of Engineering and Polymer Science is home to several undergraduate programs accredited by the Engineering Accreditation Commission of ABET, www.abet.org (<http://www.abet.org>): Aerospace Systems Engineering, Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Corrosion Engineering, Electrical Engineering, and Mechanical Engineering. Accreditation ensures that the graduates of our programs have a solid educational foundation and are ready to enter the profession. More on the importance of accreditation in engineering can be found here (<http://www.abet.org/accreditation/what-is-accreditation/why-abet-accreditation-matters/>).

Accredited engineering programs must meet a number of criteria and have specific educational objectives. The student outcomes common to all engineering programs accredited by the Engineering Accreditation

Commission of ABET, www.abet.org (<http://www.abet.org>), are that graduates have:

- (1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- (2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- (3) an ability to communicate effectively with a range of audiences
- (4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- (5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- (6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- (7) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Cooperative Education

The cooperative education program provides for a coordinated sequence of alternating periods of classroom instruction and employment during a five-year program. Students in one of Engineering and Polymer Science's undergraduate programs may pursue their degree with the cooperative education option, for a nominal five years of study, or without cooperative education, for a nominal four years of study. The exception is Aerospace Systems Engineering; in this program, cooperative education is required.

The cooperative program simultaneously provides for the development of fundamental principles in the classroom and for their application in practice. The student has the opportunity to find the type of work and organization in which the student can best apply individual ability. The student gains an appreciation of the problems of labor and management by first-hand experience. The student develops mature judgment by coping with everyday problems. The employer of a coop student has the ability to train and select a student whose abilities and aptitudes can be adapted to the needs of technical staff requirements.

While a student is at work, all rules and regulations prescribed by the employer must be obeyed. In addition, the student is subject to all current labor laws and conditions. The student is considered a full-time student by the University while on industrial assignments.

The University does not guarantee employment, but makes every effort to place a student in the best learning situation that is consistent with the acquisition of sound professional experience.

Department of Biomedical Engineering

More information on the Department of Biomedical Engineering and the undergraduate programs in Biomedical Engineering is available at:

- department Undergraduate Bulletin page (<https://bulletin.uakron.edu/undergraduate/colleges-programs/engineering-polymer-science/biomedical-engineering/>)
- department website (<https://www.uakron.edu/engineering/BME/>)

Department of Chemical, Biomolecular, and Corrosion Engineering

More information on the Department of Chemical, Biomolecular, and Corrosion Engineering and the undergraduate programs in Chemical Engineering and Corrosion Engineering is available at:

- department Undergraduate Bulletin page (<https://bulletin.uakron.edu/undergraduate/colleges-programs/engineering-polymer-science/chemical-biomolecular-corrosion-engineering/>)
- department website (<https://www.uakron.edu/engineering/CBE/>)

Department of Civil Engineering

More information on the Department of Civil Engineering and the undergraduate programs in Civil Engineering is available at:

- department Undergraduate Bulletin page (<https://bulletin.uakron.edu/undergraduate/colleges-programs/engineering-polymer-science/civil-engineering/>)
- department website (<https://www.uakron.edu/engineering/CE/>)

Department of Computer Science

More information on the Department of Computer Science and the undergraduate programs in Computer Science is available at:

- department Undergraduate Bulletin page (<https://bulletin.uakron.edu/undergraduate/colleges-programs/engineering-polymer-science/computer-science/>)
- department website (<https://www.uakron.edu/computer-science/>)

Department of Electrical and Computer Engineering

More information on the Department of Electrical and Computer Engineering and the undergraduate programs in Electrical Engineering and Computer Engineering is available at:

- department Undergraduate Bulletin page (<https://bulletin.uakron.edu/undergraduate/colleges-programs/engineering-polymer-science/electrical-computer/>)
- department website (<https://www.uakron.edu/engineering/ECE/>)

Department of Engineering and Science Technology

More information on the undergraduate programs in Engineering and Science Technology is available at:

- department Undergraduate Bulletin page (<https://bulletin.uakron.edu/undergraduate/colleges-programs/engineering-polymer-science/engineering-science-technology/>)

Department of Mechanical Engineering

More information on the Department of Mechanical Engineering and the undergraduate programs in Mechanical Engineering and Aerospace Systems Engineering is available at:

- department Undergraduate Bulletin page (<https://bulletin.uakron.edu/undergraduate/colleges-programs/engineering-polymer-science/mechanical-engineering/>)
- department website (<https://www.uakron.edu/engineering/ME/>)

School of Polymer Science and Polymer Engineering

More information on the School of Polymer Science and Polymer Engineering and the undergraduate programs in Polymer Science and Polymer Engineering and is available at:

- school Undergraduate Bulletin page (<https://bulletin.uakron.edu/undergraduate/colleges-programs/engineering-polymer-science/polymer-science-polymer-engineering/>)
- school website (<https://www.uakron.edu/polymer/>)