Bachelor of Science in Engineering

Undergraduate major: B.S.E.
Website: https://www.engineering.uiowa.edu/

The College of Engineering offers the Bachelor of Science in Engineering (B.S.E.) with majors in biomedical engineering, chemical engineering, civil engineering, computer science and engineering, electrical engineering, environmental engineering, industrial engineering, and mechanical engineering. The undergraduate majors are designed to attract the best and brightest students and prepare them to be engineers who will succeed in a workplace filled with diverse people, attitudes, and ideas; to compete in the global marketplace; to work effectively in multidisciplinary teams; and to confidently understand, use, and develop modern technology.

Six of the eight B.S.E. programs of study are accredited by ABET and the B.S.E. programs in computer science and engineering, and in environmental engineering are preparing for their initial accreditation review. Each major has its own set of articulated program educational objectives, and all are designed to ensure that graduates possess the following general attributes:

- ability to apply knowledge of mathematics, science, and engineering;
- ability to design and conduct experiments as well as to analyze and interpret data;
- ability to design a system, component, or process to meet desired needs;
- ability to function on multidisciplinary teams;
- ability to identify, formulate, and solve engineering problems;
- understanding of professional and ethical responsibility;
- ability to communicate effectively in oral, written, and graphical forms;
- a broad education necessary to understand the impact of engineering solutions in a global and societal context;
- recognition of the need to engage in lifelong learning and the ability to do so;
- knowledge of contemporary issues; and
- ability to use the techniques, skills, and modern engineering tools necessary for successful engineering practice.

The University of Iowa B.S.E. programs of study distinguish the College of Engineering from other engineering colleges in the region. They draw on the University’s recognized strengths to offer unique opportunities for students who wish to pursue a wide range of career options and an education that goes beyond technology.

Each program emphasizes a broad understanding of fundamental principles common to all engineering disciplines and provides students with the opportunity to specialize in a selected engineering discipline. All build on the University’s research strengths. Program flexibility is provided by a curriculum in which each student develops engineering competency within a particular academic program and complements it with a tailored thematic option in support of chosen career objectives (e.g., engineering practice, project management, research, and development).

This Catalog section provides information about requirements that all B.S.E. students must fulfill, regardless of their engineering major, as well as admission information and academic rules and procedures.

Engineering students may earn more than one B.S.E. degree. They also may earn combined program undergraduate degrees in the College of Liberal Arts and Sciences or the Tippie College of Business, a combined B.S.E./master’s degree in urban and regional planning, or a combined B.S.E./M.S. in engineering; see “Combined and Dual Degrees” under Requirements in this section of the Catalog.

Minors

Engineering students may complete minors in a number of disciplines. For instance, students interested in heading an engineering firm might choose to earn a minor in business administration. For a list of minors and links to the departments and programs that offer them, see Find Your Program on the General Catalog website and select undergraduate minors.

B.S.E. programs generally allow students to satisfy their elective focus area requirement by completing a minor. Students who choose this option must work closely with program advisors to ensure that the minor is compatible with their engineering career aspirations.

In order to have the minor noted on their transcript, students must designate that they have fulfilled a minor’s requirements when they submit their degree application on MyUI. See “Application for Degree” under Academic Rules and Procedures (p. 2) in this section of the Catalog.

Certificates

Engineering students may earn certificates offered by colleges across the University. The College of Engineering partners with the Tippie College of Business to offer the Certificate in Technological Entrepreneurship, which is tailored specifically for engineering students who intend to start and operate their own business or who would like to understand and learn about managing innovation in business environments. The College of Engineering also teams with the College of Liberal Arts and Sciences to offer the undergraduate Certificate in Wind Energy, which introduces students to a developing field that has a growing need for professionals with knowledge of wind energy. The college also offers the Certificate in Naval Hydrodynamics. Other certificates of particular interest to engineering students include the Certificate in International Business and the Certificate in Sustainability.

See Find Your Program on the General Catalog website and select undergraduate certificates for a complete list of certificates and links to their individual Catalog sections.

Cooperative Education and Internship Program

The Cooperative Education and Internship Program offers students the opportunity to explore engineering careers and develop engineering skills through periods of professional practice while they are still students. Supervised professional engineering-related experiences in business, industry, education, or government expose students to the challenges and opportunities of an engineer. Students with co-op and/or internship experience are sought by employers and usually receive higher starting salaries upon graduation. A portion of registered co-op and/or internship experience before graduation can be credited toward the experience.
requirements for professional licensure in Iowa and some other states. The program structure focuses on goal setting at the beginning, analysis and reflection at the midpoint, and evaluation and feedback near the end. Experiences range from ten-week summer internships to multi-term co-ops. Qualified students may choose to alternate periods of on-campus study with full-time work experience, or they may elect to work half-time while taking at least 6 s.h. of course work. Students may apply to the program following their first year. Academic record and class status are considered in acceptance decisions. For further details, see Engineering Professional Development on the College of Engineering website.

Engineering Grand Challenges Scholars Program

The Engineering Grand Challenges Scholars Program is a combined curricular and extracurricular program with five components that are designed to prepare students to be the generation that solves the grand challenges facing society in this century. The program at the University of Iowa is based on the National Academy of Engineering (NAE) 14 Grand Challenges. Students accepted into the program are required to complete five components prior to graduation. The five components of the program are:

• Research experience—project or independent research related to one of the 14 grand challenges;
• Interdisciplinary curriculum—preparing engineering students to work at the overlap with public policy, business, law, ethics, and human behavior, as well as medicine and the sciences;
• Entrepreneurship—preparing students to translate invention to innovation and to develop market ventures that scale to global solutions in the public interest;
• Global dimension—developing students’ global perspective necessary to address challenges that are inherently global as well as to lead innovation in a global economy; and
• Service learning—developing and deepening students’ social consciousness and their motivation to bring their technical expertise to bear on societal problems.

The University of Iowa’s Engineering Grand Challenge Scholars Program was the seventh in the United States and the first in the Big Ten to be approved by the national committee. More details about the program and requirements can be found on the College of Engineering Grand Challenges Scholars Program web page.

Student Organizations

The College of Engineering student body is represented by the Engineering Student Council. The council plans and carries out activities involving the entire college. Several engineering professional societies have student chapters at the University, as do a number of engineering honor societies. In addition, students may join a wide variety of engineering student organizations. Visit Student Organizations on the College of Engineering website for more information.

Diversity and Inclusion in the College of Engineering

The College of Engineering strives to be a national leader in including women and men of all races and ethnic groups in its student body and providing a model for other institutions that are interested in strengthening inclusion of all peoples in engineering. The Ethnic Inclusion Effort for Iowa Engineering develops integrative programs and activities which serve to build and nourish the engineering community. This includes support of diversity programming and diversity in student organizations. Women in Science and Engineering (WISE) offers a variety of services for undergraduate students including the WISE Peer Mentoring Program and the Be-WISE Women in Science and Engineering Living-Learning Community (LLC). The Be-WISE LLC is the University of Iowa’s longest continuously running living-learning community that provides academic and social support programming, as well as a positive community of scholars, for women majoring in STEM fields. To learn more, see Diversity at the UI College of Engineering on the college’s website.
Ranking is based on students' grade-point average for all college-level study taken up to their final registration.

To be eligible to be considered for graduation with distinction, students must complete their final 60 s.h. of study in residence at the college and must have completed at least 45 s.h. in the college before their final registration. Students in the combined engineering/liberal arts and sciences program are eligible to graduate with distinction regardless of the college in which they complete their residency requirement.

**Dean's List**

Undergraduate students in the Colleges of Liberal Arts and Sciences and Engineering and the Tippie College of Business who achieve a g.p.a. of 3.50 or higher on 12 s.h. or more of University of Iowa graded course work during a given semester or summer session and who have no semester hours of I (incomplete) or O (no grade reported) during the same semester are recognized by inclusion on the Dean's List for that semester.

**President's List**

University of Iowa undergraduate students who achieve a g.p.a. of 4.00 on 12 s.h. or more of University of Iowa graded course work and who have no semester hours of I (incomplete) or O (no grade reported) for two consecutive semesters (excluding summer sessions) are recognized by inclusion on the President's List.

**Academic Standards**

**Maximum Schedule**

During early registration, students may register for a maximum of 19 s.h. for a fall or spring semester, 12 s.h. for a summer session, or 3 s.h. for a winter session. Course schedules that exceed the maximum semester hours allowed require approval of the advising staff in Engineering Student Services. The permission to register for additional hours form is available online.

**Classification of Students**

Students in the College of Engineering are classified by the number of semester hours of credit they have earned toward the Bachelor of Science in Engineering.

- First-year: 0-29 s.h. earned toward the B.S.E.
- Sophomore: 30-59 s.h. earned toward the B.S.E.
- Junior: 60-89 s.h. earned toward the B.S.E.
- Senior: 90 s.h. or more earned toward the B.S.E.

**Grading System**

The college uses a letter grading system. A denotes superior performance, B denotes above average, C denotes average, D denotes below average, and F denotes failure of the course. Plus and minus designate gradations of performance between letter grades. Letter grades and their numerical equivalents are as follows.

- A-plus: 4.33
- A (superior): 4.00
- A-minus: 3.67
- B-plus: 3.33
- B (above average): 3.00
- B–minus: 2.67
- C-plus: 2.33
- C (average): 2.00
- C–minus: 1.67
- D–plus: 1.33
- D (below average): 1.00
- D–minus: 0.67
- F (failing): 0

This grading system is used for all students in both undergraduate and graduate engineering courses. Grades of D-minus are passing grades; that is, courses completed with grades of D-minus or higher count toward collegiate requirements.

**Academic Probation and Dismissal**

Students who do not achieve or surpass University of Iowa cumulative and semester minimum grade-point averages of 2.00 are placed on academic probation.

Students on academic probation are restored to good standing when they successfully complete an additional 9 s.h. toward an engineering degree, either in one semester or cumulatively, and their University of Iowa cumulative and semester grade-point averages equal or exceed 2.00.

The college reviews academic records for all students at the end of the fall and spring semesters. There is no review at the end of the summer session. Students are placed on probation, dismissed for unsatisfactory progress (with or without previous probationary status), or restored to good standing only at the end of the fall and spring semesters. Students on academic probation are not permitted to continue their enrollment without written expectations for their future performance.

When all of the grade-point averages equal or surpass 2.00, students are removed from probation. Students usually are allowed only one session to return to good academic standing. Students on academic probation who withdraw registration after the deadline to drop courses may be dismissed.

Students who do not make satisfactory progress may be dismissed from the college without an intervening probationary period. Students who are dismissed from the college for unsatisfactory academic progress due to circumstances beyond their control, such as a death in their immediate family or extended personal illness, may appeal for a revocation of the dismissal. A student dismissed in January must submit a written appeal by the second day of spring semester classes. A student dismissed in May must submit the written appeal by June 15.

Students dismissed from the college for low scholarship may appeal to re-enroll after an interval of at least one calendar year. A written appeal for reinstatement must be submitted to the Appeals Committee at the Student Development Center. Appeals must be submitted before June 15 for reinstatement in a fall semester or before December 15 for reinstatement in a spring semester.

**Appeal Procedures**

Students in the College of Engineering who wish to appeal certain academic actions or records must submit their requests in writing to the Appeals Committee at the Student
Development Center. Consult the college for specific mailing information.

Students submit their requests in writing but do not appear before the committee. The committee considers and recommends an action to the associate dean for undergraduate programs regarding each request. Each student filing an appeal will receive in writing a letter conveying the decisions of the committee. The decisions of the committee are final.

Revocation of Dismissal Immediately after Dismissal is Imposed

If extenuating circumstances, such as a disabling illness or a personal crisis, interfered with academic progress resulting in dismissal, a student may appeal for a revocation of the dismissal, based on careful and complete documentation of the extenuating circumstances.

Reinstatement in the College

Students dismissed from the college due to low scholarship for the first time are not permitted to register again for one year. Students dismissed for the second time may or may not be granted a second reinstatement. Students may file a written appeal for reinstatement to re-enroll after an interval of at least one full academic year.

Retroactive Withdrawal from an Academic Semester or Summer Session

Students requesting a retroactive withdrawal of a specific semester must provide documentation substantiating the particular extenuating circumstance that occurred which was beyond their control.

Letter Conditions

Students filing an appeal should consider their letters carefully. The letters must meet the following conditions:

- be typewritten on 8 1/2” X 11” paper;
- include full name, student ID number, current address, and current date;
- use the salutation “Dear Committee Members”;
- be signed (unsigned letters will not be accepted and will cause a delay in the review of the appeal);
- be brief, clear, complete, and concise;
- state specifically the subject and nature of the appeal to be considered by the committee; and
- include supporting documentation of circumstances, including statements from health care professionals, if applicable.

Supporting letters documenting illness or special circumstances must be solicited by the student from appropriate sources. Students also may wish to contact their faculty advisor, department chair, instructor, and/or employer for letters of reference. The supporting person(s) should send these letters directly to the Appeals Committee at the Student Development Center. Consult the college for specific mailing information.

The College of Engineering requests this information only for the purpose of ruling on the appeal. No persons outside the University are provided information without the student’s permission, except for items of directory information such as name and local address. If a student fails to provide the required information, the college will not be able to act on the appeal request.

Dropping and Adding Courses

Students may add or drop courses, except College of Law courses, any time before the deadline published in the University’s academic deadline calendar. Deadlines are different for regular and off-cycle courses. See Academic Calendar on the Office of the Registrar website. See Course Deadlines on the Office of the Registrar website for course-specific deadlines.

Students must obtain approval from the college that offers the course in order to request permission to add or drop a course after these deadlines.

Withdrawing from Courses

Undergraduates receive the mark of W for any course dropped after the second week of the semester or the first one-and-one-half weeks of the summer session. Students may not drop the same course with a mark of W more than twice. Special courses that may be repeated are exempt from this rule.

Students who have a legitimate reason for dropping a course (e.g., disabling illness, death of an immediate family member) and can document that reason are permitted to exclude that drop from the maximum, but the W is not removed from the record. Requests for such exclusions are made at Engineering Student Services.

Withdraw of Registration

Students who withdraw their entire registration must consult the staff at the Student Development Center or the academic dean for academic programs. A student on scholastic probation who withdraws registration at any time without good cause may not be permitted to enroll for the following semester without specific approval from the Student Development Center staff.

Prerequisites

Undergraduate students must complete a course’s prerequisites. The registration system reads a student’s record, and if there is no evidence that the prerequisite has been completed or is in progress, the system automatically blocks enrollment. See Undergraduate Prerequisite Q&A on the College of Engineering website for more information about prerequisite policies and procedures.

Pass/Non-Pass Option

A maximum of two courses taken pass/nonpass (P/N) may be applied toward satisfaction of the general education requirement. P/N registration must be approved by the student’s advisor and the instructor of the course and must be completed during the first 10 days of a semester or the first two weeks of a summer session. P/N registration may not be changed after the deadline for adding courses. The pass/nonpass option may not be used for courses taken to satisfy the rhetoric requirement.

Students enrolled in courses taught in the College of Engineering may choose to be graded pass/nonpass under the following conditions:

- the signatures of the advisor and instructor must be obtained on the proper form, and the completed form must be submitted to the UI Service Center by the
student within the time period established by University policy; and
the mark of P (pass) is awarded where the final course grade earned was C-minus or higher; the mark of N (nonpass) is given for grades of D-plus or below; marks of P and N are not used in computing the grade-point average, and the mark of N does not count as earned credit.

No course work taken in the College of Engineering on the pass/nonpass option may be used to satisfy requirements for an engineering degree.

Second-Grade-Only Option

Students may elect to repeat a course with only the new grade being counted in their grade-point average. The option may be applied to no more than three courses, and it may be applied only once to a particular course. Transfer students may apply the option on a prorated basis.

A course may not be repeated under the second-grade-only option once it has been used as a prerequisite for a more advanced course that the student has completed successfully.

To exercise the second-grade-only option, students register as usual for the course that is to be repeated, then they complete a second-grade-only option form at Engineering Student Services. The second-grade-only option form is available online. Students must complete the form during the session in which they repeat the course, within the first 12 weeks of the fall or spring semester or the first six weeks of the summer session. Students must follow this procedure or both grades will be counted in their University of Iowa grade-point average.

Under the second-grade-only option, the registrar marks the permanent record to show that a particular course has been repeated. Both grades remain on the permanent record, but only the second is used in calculating the grade-point average and semester hours earned. The course must be taken the second time under the same circumstances and with the same grade option as it was taken the first time.

The second-grade-only option cannot be used to remove a grade of incomplete, which must be removed in the usual manner. A student who holds a degree from the University of Iowa may not apply the second-grade-only option to a course taken before the degree was conferred.

Satisfactory/Fail, Satisfactory/ Unsatisfactory

The noncredit professional seminar courses required in each of the professional programs are offered only satisfactory/fail (S/F). No other engineering courses are offered on this basis. An F (fail) grade earned for such a class does not satisfy any portion of the professional seminar requirement.

Incomplete and No Report Grades

A mark of I (incomplete) that is not replaced by a final grade will automatically be converted to an F (fail) at the end of the next fall or spring semester (summer and winter sessions excluded), even if a student does not enroll after the session the incomplete was posted.

A mark of O (no grade reported) will remain on a student’s permanent record until a valid grade is submitted.

Credit by Examination

Students who have acquired knowledge in subject areas from sources other than formal course registrations may be granted credit toward graduation by examination, under the following conditions and limitations.

No more than 32 s.h. of credit by examination may be applied toward B.S.E. degree requirements.

College-Level Examination Program (CLEP) credit may be counted toward the lower-level general education (humanities and social science) requirements. CLEP credit earned in natural science areas does not count toward the engineering degree. Credit also may be earned through Advanced Placement (AP) Exams. For details about CLEP and AP credit, see Credit by Exam Options on the Office of Admissions website.

Engineering students may earn credit for equivalent experience or former course work in any of the required common core courses through successful completion of examinations prepared and graded by the core course committees. Students who fail a core course are not permitted to earn credit by examination for the failed course. Students who wish to earn credit for core courses by examination must obtain approval from the associate dean for academic programs.

With the approval of departmental faculty, credit in three or fewer courses (totaling no more than 6 s.h.) may be awarded upon successful completion of final examinations in program elective courses.

Language Incentive Program

The University’s Furthering Language Incentive Program (FLIP) gives entering engineering students two options for earning college credit for the study of a world language.

Option 1: Entering students who place into a fifth-semester language course and complete the course with a grade of B-minus or higher receive 4 s.h. of exam credit for the fourth-semester course. The credit is ungraded but may be counted toward the hours required for graduation. Incentive credit is not granted for college course work for which credit has been received.

Students are eligible for incentive credit only during their first and second registrations at the University of Iowa.

Option 2: Students may receive 2 s.h. of exam credit for earning a grade of B-minus or higher in the first-semester-level course in a language different from the language used to satisfy their world languages requirement. They may earn another 2 s.h. for completing the second-semester-level course in that language for a grade of B-minus or higher.

Visit the college’s website for more information about FLIP credit. For more information on eligibility and restrictions, consult Engineering Student Services.

Credit from Other Colleges

Course requirements in engineering may be satisfied with credit earned in courses taken in other University of Iowa colleges or at other accredited colleges or universities. When students apply for admission to the College of Engineering, they must submit official transcripts from each college attended along with their application for admission. After the credit has been certified by the Office of Admissions as college-level work from an accredited institution and after admission has been granted, the credit is evaluated by the
Student Development Center either before or during the student's first semester of enrollment in the college.

Satisfaction of engineering course requirements by transfer course work may be approved by the Student Development Center if, course-by-course, there is a match in the content and level of the transfer courses, and if the grades earned for such courses are C-minus or higher. Students who want to satisfy the engineering general education component requirements or the University of Iowa rhetoric requirement by transfer work must follow the College of Engineering transfer credit guidelines.

Students planning to attend a two- or four-year institution before transferring to the College of Engineering should discuss the planned transfer with officials at both schools before embarking on a transfer program. The College of Engineering has recommended transfer course lists for most Iowa community colleges and some four-year colleges. Once students are enrolled in the College of Engineering, they must have prior approval for course work taken at other institutions.

By policy of the Board of Regents, State of Iowa, a student may apply a maximum of 64 s.h. of transfer credit earned at a two-year college toward the minimum 128 s.h. required for the B.S.E. However, transfer credit from a two-year school in excess of 64 s.h. is used in computing grade-point average and may be used to satisfy course requirements, even though the semester hours cannot be counted toward the total required for graduation. A grade of C-minus or higher is required in order for transfer credit to be applied toward a degree requirement.

Contact the Student Development Center for more information.

Course Substitutions

For students in the College of Engineering, the substitution of an alternate course for a required course requires the approval of a petition. The petition/substitution form is available on the college's website. The form must be completed by a student and must be approved by the collegiate core course chair.

If the petition involves a required engineering core course or a general education component course, then it also must be approved by the Student Development Center. Substitutions for required engineering core courses should be made infrequently and only under compelling circumstances. Substitutions of courses that are required by a student's program are governed by the faculty of that program; approval of these course substitutions is needed only from the faculty advisor; department undergraduate chair and the department chair. All petitions must be forwarded to the Student Development Center for inclusion in a student's permanent file.

Auditing Courses

Students in the College of Engineering may register for a course for zero credit (audit) with permission of the course instructor and the advisor. The mark of AUS (audit successful) is assigned to students registered for zero credit if attendance and performance in the course are satisfactory; if unsatisfactory, the mark of AUU (audit unsuccessful) is assigned. Courses completed with a mark of AUS do not meet any requirements nor do they carry any credit toward graduation. Auditing may not be used as a second-grade-only option.

To register for a course on an audit basis, students must obtain the instructor's authorizing signature and their advisor's signature and must register for 0 s.h. To change registration from audit to credit or from credit to audit, a drop-add form is used. These changes must be made during the first three weeks of a semester or the first one-and-one-half weeks of a summer session.

Misconduct, Complaints

Student Academic Misconduct

The College of Engineering endorses the policies and rights of students as stated in Regulation 1 of the Code of Student Life General Conduct Regulations in the University of Iowa Code of Student Life. The College of Engineering reserves the authority to handle acts of academic misconduct as adopted by engineering faculty and staff.

The following regulations provide a procedure for dealing with students who are alleged to have committed an act of academic misconduct.

Guidelines for Disciplinary Action by an Instructor

Exams: In cases of cheating on midterm or final exams, it is recommended that the instructor reduce the student’s grade, including the assignment of the grade of F (fail) in the course. When a course grade has been reduced to an F (fail), the student may not drop the course, nor use the second-grade-only option procedure to eliminate the failing grade from the semester and cumulative grade-point average values that appear on a student’s permanent record card. It is recommended that cheating on quizzes be considered as serious a violation as on exams and that the penalty be similar. The instructor shall send a written report of any disciplinary action to the office of the dean and the report shall be placed in the student’s file.

Homework, lab reports, etc.: Each instructor shall announce at the beginning of each course the acceptable policies on student collaboration in each of the graded course requirements. When the policy is clearly violated, a 0 (no grade reported) shall be assigned for the total portion of the course grade allocated to the requirement in which the violation occurred; for example, a 0 (no grade reported) for all homework assignments if cheating occurred on a homework assignment. A written report of this action shall be sent by the instructor to the office of the dean and placed in the student’s file.

Student Appeal

When a written report of disciplinary action by an instructor is received by the office of the dean, the student shall be notified in writing of the action. If the student feels that the finding of cheating is in error or the penalty is unjust, the student may request a hearing by notifying in writing the associate dean of the college. If the student is not satisfied with the results of the hearing, the student may request a review by the associate provost for undergraduate education.

Disciplinary Action by the Dean

In cases of flagrant or a second offense, the dean of the college may impose the following or other penalties as the offense may warrant: cancellation of the student’s registration, disciplinary probation, suspension from the college, or recommendation of expulsion from the University by the president. If the student feels that the penalty imposed
by the dean is unjust, the student may request a review by the office of the provost.

**Record of Disciplinary Action**

Reports of academic misconduct received by the office of the dean shall be placed in the student’s electronic file at the University of Iowa. The office of the dean shall notify the student of each report and the right of the student to request a hearing for review of the case.

**Student Complaints Concerning Faculty Actions**

Students with complaints against faculty should first attempt to resolve the issue with the faculty member against whom there is a complaint. Lacking a satisfactory outcome, the student should discuss the matter with the chair of the faculty member’s program, division, or department.

Students who are uncomfortable dealing directly with a faculty member or a program/division chair may seek assistance from the College of Engineering ombudspersons in seeking a resolution of a complaint. However, it is anticipated that grievances generally can be satisfactorily resolved most expeditiously at the faculty or chair level.

If the student is not satisfied with the outcome of this procedure, the student should discuss the complaint with the associate dean for academic programs in the College of Engineering.

**Admission**

Applicants for admission to the College of Engineering as first-year students must have successfully completed at least four years of English/language arts; four years of mathematics, which must include at least two years of algebra, one year of geometry, and one year of higher mathematics (trigonometry, analysis, calculus); two years of a single world language; three years of natural science, which must include at least one year of chemistry and at least one year of physics; and at least two years of social studies. A high school computer programming course is recommended but not required.

Applicants are guaranteed admission to the College of Engineering if they have no high school unit deficiencies, an American College Testing (ACT) composite score of 25 or higher, an ACT math score of 25 or higher, and a Regent Admission Index score of at least 265. Students who do not meet these requirements, or who attend a high school that does not rank its students, are encouraged to send recommendations from math and science teachers and a personal statement, which will be considered in an individual review by the College of Engineering.

Students who are admitted through the individual review process may be required to make up deficiencies by taking a lower-level course in their area of deficiency before enrolling in the first required course in that area. For example, students who have high math grades and standardized test scores, but who are deficient by one unit in mathematics, may be required to complete a course such as MATH:1020 Elementary Functions before enrolling in the first engineering calculus course.

Incoming first-year and transfer students who do not meet the world language requirement may be admitted on conditional status for a maximum of four semesters in order to complete two semesters of an introductory college-level world language.

Students who are unsure whether to pursue a degree in engineering or a degree in liberal arts and sciences are strongly encouraged to begin in engineering if they meet the admission requirements.

Information about admission to the College of Engineering is available on the college’s website.

**Transfer Applicants**

Transfer applicants must have completed the same high school unit requirements as entering first-year students and must submit an official high school transcript as well as a transcript of college work undertaken at other institutions. To transfer to the College of Engineering, students must have demonstrated success in math, science, and engineering courses, ideally earning all As and Bs with no grade lower than a C in these foundation subjects. Transfer students must have completed calculus I and the equivalent of either CHEM:1110 Principles of Chemistry I or PHYS:1611 Introductory Physics I (the first semester of chemistry designed for majors or the first semester of calculus-based physics). Overall grade-point average also is considered in transfer applications.

Information about admission requirements for transfer students is available on the college's website.