ENGINEERING, HERBERT WERTHEIM COLLEGE OF

Established in 1910, the Herbert Wertheim College of Engineering is the largest professional school, the second-largest college and one of the three largest research units at the University of Florida. The curricula is designed to produce highly skilled engineers and provide each student with a broad range of degree and career choices.

Contact
312 Weil Hall
1949 Stadium Road or
P.O. Box 116550
University of Florida
Gainesville, FL 32611-6550
352.392.2177

Academic Advising and Career Coaching
Center for Student Excellence
204 Weil Hall
352.392.0944

Established
1910

Programs
A four-year undergraduate program and combined-degree program with joint award of bachelor’s and master’s degrees in 15 engineering specializations.

Degrees
Bachelor of Science, Master of Science, Master of Civil Engineering, Master of Engineering, Doctorate.

Academic Advising
First Year students receive academic advising and career coaching in the Center for Student Excellence. Students who successfully complete their first year are transitioned to departmental advising. All engineering students must contact an advisor before registering for classes each semester.

Scholarships
Scholarship awards are made each spring for the following academic year and are based on demonstrated need and scholastic performance. Applications are available

Internships and Career Guidance
Visit the Career Connections Center in the J. Wayne Reitz Student Union.

College Mission
The Herbert Wertheim College of Engineering fosters and provides world-class programs in engineering education, research and service to enhance the economic and social well-being of the citizens of Florida, the nation and the world.

Graduates of the Herbert Wertheim College of Engineering at the University of Florida will exhibit the following in pursuit of their profession:
- Vision, as evidenced by an ability to use creative approaches to problem solving.
- Values, as evidenced by an understanding of the importance of employing strong professional ethics.
- Leadership, as evidenced by serving as:
  - A team/project leader with solid project management and planning skills
  - A mentor to less experienced staff
  - A volunteer in the community
- Professional expertise, as evidenced by:
  - Making meaningful contributions to technical engineering problem solving as both an individual contributor and in team situations
  - Continually enhancing both technical and non-technical skills
  - Applying professional expertise to increasingly complex problems/projects
  - Increasingly capable communications skills, both verbal and written
  - Knowledge about the interaction of financial, societal, legal or cultural influences with science and technology.

Accreditation
For information about a specific major, please refer to the departmental webpage, contact the undergraduate coordinator in the department, or visit the dean’s office in Weil Hall.

Particle Engineering Research Center (PERC)
Information about the center’s research, education and technology transfer programs: 352.846.1194 or Email.

Engineering Undergraduate Student Affairs
Engineering student services are provided through Engineering Undergraduate Student Affairs located in 312 and 204 Weil Hall. Undergraduate Student Affairs is responsible on a college-wide basis for coordinating academic advising and developing and implementing other student support programs and services, including career/college life coaching, success workshops, study halls, tutoring and mentoring, retention efforts, and new student programs.

The division informs students of educational opportunities such as scholarships, tuition waivers, co-op and internship opportunities and available campus resources. The division also serves as liaison between the Herbert Wertheim College of Engineering and university-wide student services and facilities.

First Year Academic Advising and Career Coaching
First year engineering students receive individualized academic, career, and personal coaching from the Herbert Wertheim College of
Engineering's professional academic advisors and career coaches in our comprehensive First Year Advising program. One-on-one and small group sessions are offered to assist students in identifying majors, resources, and opportunities that will enhance their personal, professional, and academic goals. Engineering Peer Advisors are also available to answer questions, discuss student organizations and design teams, and provide mentoring to new students. The Engineering Center for Student Excellence is located in 204 Weil Hall.

Multicultural and Diversity Programs

These programs provide focused support to under-represented groups in the engineering profession. Students receive the personal, academic, social and cultural support they need to achieve academic success.

Services include orientation to UF and the college, academic and career advice, leadership development, engineering success skill development, coaching, financial assistance and tutoring.

First Year College Transition Programs

The college offers transition programs for incoming freshmen to help them adjust to college life at the university.

STEP-UP is a multifaceted bridge programs designed to promote academic and personal success among entering engineering students throughout their first year (Summer B, fall and spring). This program combines faculty and peer mentoring with team-building, industry involvement and academic enhancement classes in engineering foundation courses. An engineering design component provides the opportunity to apply foundational concepts in problem-solving, team-building and interpersonal communications.

Pre-Collegiate K-12 Programs

The Herbert Wertheim College of Engineering supports the university’s land-grant mission through a wide range of programs that support student preparation in grades K-12. These include the Gator Engineering Outreach Program, SECME, Engineering GatorTrax and information programs for students and guidance counselors.

Information about these programs: Engineering Undergraduate Student Affairs, 212 Weil Hall.

Helpful Links

- College Website
- Combined Degrees
- Computer Requirement
- Dean’s List

Academic Policies

Admission to the College

Preparation for Freshmen and Sophomores

The beginning engineering student should have a good understanding of the basic physical sciences, a demonstrated ability in mathematics and the competence to read rapidly with comprehension.

Minimum high school preparation should include the basics outlined below. Students who need additional foundation courses can complete appropriate math and chemistry courses before proceeding with the regular engineering curriculum.

Refer to freshman admission for complete information.

<table>
<thead>
<tr>
<th>Essentials</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate and advanced algebra</td>
<td>1</td>
</tr>
<tr>
<td>Plane geometry</td>
<td>1</td>
</tr>
<tr>
<td>Trigonometry</td>
<td>1/2</td>
</tr>
<tr>
<td>Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>Physics</td>
<td>1</td>
</tr>
<tr>
<td>Calculus</td>
<td>1</td>
</tr>
</tbody>
</table>

General Education

Students must complete general education and prescribed foundation coursework in mathematics and the physical and biological sciences before pursuing junior/senior-level courses in the college. All courses used to satisfy general education requirements must be taken for a letter grade and a minimum grade of C is required. Requirements of the Accreditation Board for Engineering and Technology (ABET) in general education are satisfied by the university’s general education requirements.

Transfer from Florida State Colleges

Florida state college students who have completed the Associate of Arts degree and the required technical foundation courses in calculus, differential equations, chemistry and physics with calculus are eligible to apply for transfer directly into the Herbert Wertheim College of Engineering. Admission to the college is selective and is based on the total record. Students with excessive withdrawals from coursework may not be eligible.

In particular, transfer students must meet the following minimum requirements:

- Earn an Associate of Arts degree from a Florida public state college with a minimum GPA of 2.00.
- Satisfy the general education requirements of the state college and comply with the general education requirements of UF and the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.
- Complete two sequential courses of foreign language in secondary school or 8-10 semester credits at the post-secondary level or document an equivalent level of proficiency.
- Satisfy critical-tracking criteria in accordance with specific program requirements and overall grade point average.
- Complete critical-tracking courses in calculus, differential equations, chemistry and physics with calculus with minimum grades of C in each course and a minimum GPA of 2.5 (as computed on the last of a maximum of two attempts allowed for each course, including withdrawals). For certain majors, a higher grade is required in each course. Some majors have additional critical tracking courses.

Upper Division Transfer from a Non-Florida State College

All students who transfer from four-year institutions must meet the general admission requirements of the university. In addition, students must meet the college’s admission requirements to transfer directly into an engineering program. Students with 60 or more credits earned but less than 90 credits will be considered on a space-available basis.

Students with more than 90 credits earned and applying from a non-Florida state/public college are generally not considered for admission.
All students transferring to UF must complete a minimum of 60 credits of acceptable 3000/4000-level coursework at UF to receive a degree from this college.

Unless previous arrangements have been made for course certification by faculty of the Herbert Wertheim College of Engineering, only engineering courses taken in programs accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology will be considered for transfer to this college.

**Postbaccalaureate Admission**
A student who has received a baccalaureate degree who wants to meet specific requirements for admission to graduate school may be admitted as a postbaccalaureate student. Space is limited for postbaccalaureate study and only where space is available will admissions be made for postbaccalaureate studies.

**Overseas Studies**
HWCOE International Engineering Programs offers students the opportunity to participate in international experiences, through study, research, internship and service learning abroad. Students can study abroad for a semester and take major classes or participate in a summer program to gain research or internship experiences. There are more than 40 semester-long exchange programs in more than 20 countries that offer engineering classes in English to help students stay on track for their academic program. Credits earned in study abroad programs may count toward a major or minor and can satisfy general education, language and summer residency requirements.

Every engineering student has a unique academic plan and we work with the individual student to customize their international experience. For more information, go to https://www.eng.ufl.edu/international or talk to your academic advisor to find out more.

**Academic Regulations**

**Credit for Special Work**
- With department approval, a student can receive practical industry work experience under supervision. With a previously approved outline, a student can receive up to three college credits by submitting a satisfactory report and by passing an examination.
- Students can receive credit for research work by registering for EGN 4912. See your academic advisor for details.
- A student cannot apply more than eight credits of individual study, including high honors projects, co-op work experience, practical work experience and special problems or special topics, for credit toward a degree program.

**Drop Policy**

Students are allowed two drops in the first 60 credits of UF coursework and two drops in upper division (60 or more credits completed at UF).

A student with an initial course load of 15 credits or more will be permitted an extra drop if the drop is completed by the end of the seventh week of class and if the total credits remaining are 12 or more.

Petitions to drop courses beyond the allotted number will be approved only when circumstances beyond the student’s control prevented the satisfactory completion of a course. All such petitions must be submitted to Engineering Undergraduate Student Affairs, along with a written recommendation from the student’s department advisor.

**English Requirement**
Each student in the college is required to complete ENC 1101 or ENC 1102. All students must also complete an appropriate course in professional communication with a minimum grade of C.

Any instructor in the college may require a student with a deficiency in English to complete additional coursework beyond the curriculum requirements for the degree, with approval of the department chair.

**Flexible Learning**
An enrolled engineering student will not be permitted to register for flexible learning courses unless the associate dean for student affairs and the registrar grant special permission. A student on probation must have permission of the associate dean to register for flexible learning courses when not enrolled in the college. A student who has been dismissed cannot take flexible learning courses for credit until the suspension is removed. A minimum grade of C is required for credit in a flexible learning course.

**Grievance Procedures**
The college supports the university’s Affirmative Action and Equal Opportunity program. Anyone who believes that he or she has been discriminated against should contact the associate dean for student affairs.

If a student feels that his or her performance in a course has not been evaluated accurately, the situation should be discussed with the instructor. If the disagreement is not resolved, the student can pursue the matter with the instructor’s department chair, the associate dean for student affairs and the university ombudsman.

**Honors and Accelerated Courses**
Honors and accelerated courses can be taken in place of their regular tracking counterparts. A prerequisite for any college course can be met by an honors or accelerated equivalent. Accelerated physics and honors chemistry courses are not restricted to students in the honors program, but honors calculus courses are controlled by the university honors program. Currently approved substitutions include:

- PHY 2060 instead of PHY 2048
- PHY 2061 instead of PHY 2049

**Independent Study**
Under certain circumstances, credit toward graduation may be obtained through independent study by registering for a course carrying a department prefix. A student cannot apply more than eight credits of independent study toward a degree program, including *magna cum laude* or *summa cum laude* honors projects, co-op work experience, practical work experience and special problems or special topics. Registration for one to four credits of variable credit in a semester requires department approval.

**Probation Policy and Dismissal**
An undergraduate student who is off-track or whose upper-division, university or department grade point average falls below 2.00 will be placed on academic probation. The student will be allowed two semesters to attain good academic standing. Students may not be
on academic probation for more than two semesters during their undergraduate program. A student who fails to meet the conditions of probation must petition his or her department to be allowed to continue in the major. Approval of this petition is at the discretion of the student's department.

As a condition of probation, students must see an advisor at designated intervals to review progress toward meeting the conditions of probation. Failure to keep such appointments without valid reason will be considered a violation of probation and may result in dismissal from the program.

Students dismissed from the Herbert Wertheim College of Engineering should seek admission to another program.

Students should acquaint themselves with their department's probation and exclusion procedures and guidelines.

**ROTC**

Engineering students can enroll in the advanced ROTC programs offered by the Army, Navy and Air Force. Graduates will be commissioned as second lieutenants or ensigns. Advanced courses in military science are not normally acceptable credit as technical or nontechnical electives toward an engineering degree.

**S-U Grade Option**

All courses taken at the university to satisfy engineering degree requirements, general education and writing requirements must be taken for letter grade, unless the course is offered only on a satisfactory-unsatisfactory (S-U) basis. Nontechnical electives in the junior and senior years can be taken S-U.

Physical education courses taken when an engineering student has reached junior status must be taken S-U.

Students should check with their departments to determine policy.

**Student Responsibility**

It is the student's responsibility to review and consider all pertinent information about the university and the college. Special attention must be paid to required documentation and deadlines.

**Summer Attendance**

Students who have completed a summer study abroad program, co-op, internship, research experience, or other engineering-related work can petition to waive this requirement once they have earned 75 credit hours. All petitions must be submitted to the university petitions committee with all appropriate documentation.

**Transient Students**

This category includes students who are admitted to the college who wish to pursue studies temporarily at another two- or four-year institution. Students who wish to transfer credits for coursework completed at other institutions must first obtain department and college approvals.

A transient student who is a degree-seeking candidate at another institution who wishes to transfer credit from the University of Florida must file a non-degree application with the Office of the University Registrar in Criser Hall.

**Withdrawal from the University**

Any undergraduate who withdraws from the university a second time will be placed on college probation automatically until graduation. Any student on college probation who withdraws from the university a third time may be, at the discretion of the associate dean for undergraduate student affairs, ineligible for further registration in the college.

**Degree Requirements**

The Herbert Wertheim College of Engineering confers a Bachelor of Science degree upon all students who have successfully completed a program of study and have fulfilled all requirements for a specific major in the college.

A thesis is not required for the baccalaureate degree. However, the department can grant permission to exceptional students to undertake a thesis in lieu of up to four semester credits of required or elective work in the student's department.

**Required Minimum Grade Point Averages**

- 2.5 GPA is required in critical-tracking courses
- 2.0 GPA is required for all courses completed in the college
- 2.0 GPA is required in all work attempted in the department
- 2.0 cumulative GPA is required in all work attempted at the university

All grade point averages are based on a 4.0 scale computed on the last of the maximum two attempts (including withdrawals) allowed for each course.

**Technical Foundation Courses**

Technical coursework is required of all students. This coursework also satisfies the mathematics and physical/biological science categories of the general education requirement. Generally, all technical coursework must be completed or be in final progress before a student can register for junior/senior-level engineering courses. Minimum grades of C are required in all calculus, chemistry and physics coursework based on a maximum of two attempts, including withdrawals.

*Some departments may have higher requirements.*

**Critical-Tracking Criteria**

The Herbert Wertheim College of Engineering has established tracking criteria for all programs. Applicants with specific questions can contact the department or Engineering Undergraduate Student Affairs.

Students must fulfill the performance criteria for their program's tracking courses. Students who are off-track will be placed on probation. Students who fail to meet the conditions of their probation may not be allowed to continue in the Herbert Wertheim College of Engineering.

A minimum grade of C (based on a maximum of two attempts, including withdrawals) is required for each tracking course. Students may repeat a maximum of three critical tracking courses. A minimum 2.5 critical-tracking GPA is required for students to continue to the upper-division engineering program. Some departments require a grade higher than C in critical-tracking courses. Students are expected to complete all critical tracking courses by the fifth fall/spring semester.

*To be on track, students must meet or exceed these minimum performance criteria.*
Tracking Courses

<table>
<thead>
<tr>
<th>Semesters at UF</th>
<th>Minimum Completed</th>
<th>Minimum GPA</th>
<th>Minimum Overall UF GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>1</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Second</td>
<td>2</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Third</td>
<td>4</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Fourth</td>
<td>6</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Fifth</td>
<td>8</td>
<td>2.5</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Required Tracking Courses: All Engineering Majors

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>15 credits</td>
</tr>
<tr>
<td>Calculus</td>
<td></td>
</tr>
<tr>
<td>MAC 2311</td>
<td>4</td>
</tr>
<tr>
<td>MAC 2312</td>
<td>4</td>
</tr>
<tr>
<td>MAC 2313</td>
<td>4</td>
</tr>
<tr>
<td>Differential Equations</td>
<td></td>
</tr>
<tr>
<td>MAP 2302</td>
<td>3</td>
</tr>
<tr>
<td>Physical/Biological Sciences</td>
<td>16 credits</td>
</tr>
<tr>
<td>Physics</td>
<td></td>
</tr>
<tr>
<td>PHY 2048</td>
<td>3</td>
</tr>
<tr>
<td>PHY 2048L</td>
<td>1</td>
</tr>
<tr>
<td>PHY 2049</td>
<td>3</td>
</tr>
<tr>
<td>PHY 2049L</td>
<td>1</td>
</tr>
<tr>
<td>Chemistry</td>
<td></td>
</tr>
<tr>
<td>CHM 2045 or CHM 2095</td>
<td>3</td>
</tr>
<tr>
<td>CHM 2045L</td>
<td>1</td>
</tr>
<tr>
<td>CHM 2046 or CHM 2096</td>
<td>3</td>
</tr>
<tr>
<td>CHM 2046L</td>
<td>1</td>
</tr>
</tbody>
</table>

Additional critical tracking requirements:

Refer to specific major plan

1 Calculus and chemistry placement will be determined by student scores on the online ALEKS assessment test, which is required for all engineering students.

2 Industrial and systems engineering majors: CHM 2045 is not required for tracking; however, it is required for graduation.

3 Aerospace engineering, civil engineering, computer engineering, computer science, digital arts and sciences, electrical engineering, industrial and systems engineering, mechanical engineering, and nuclear engineering either do not require CHM 2046/CHM 2096 or may substitute another course.

4 Additional critical tracking requirements for specific majors are listed in the major degree programs.

Progression to Graduation

The programs leading to bachelor’s degrees in engineering are carefully planned and organized sequences. The highly motivated student with proper high school preparation can complete these programs in four years, including at least one summer term, by scheduling an average of 15 credits each semester.

Usually, foundation subjects common to all fields of engineering are studied in the first two years at the university or in a pre-engineering program at a state or community college. Specialized study is taken in the junior and senior years within a department of the college, where the program is tailored to the student’s preparation, interests and career goals.

The specific requirements for each major are outlined. Students must consult their academic advisors each semester before registering for classes.

Graduating with Honors

Programs

MAJORS

- Aerospace Engineering
- Biological Engineering
- Biomedical Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Computer Science | Herbert Wertheim College of Engineering
- Digital Arts and Sciences | Bachelor of Science
- Electrical Engineering
- Engineering | Exploring Engineering Studies
- Environmental Engineering
- Industrial and Systems Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Nuclear and Radiological Sciences
- Nuclear Engineering

MINORS

- Biomechanics Minor
- Biomolecular Engineering Minor
- Computer and Information Science and Engineering Minor
- Electrical Engineering Minor
- Engineering Innovation Minor
- Materials Science and Engineering Minor
- Nuclear and Radiological Engineering Minor
- Sales Engineering Minor

CERTIFICATES

- Advanced Engineering Ceramics Certificate
- Biomaterials Certificate
- Engineering Innovation Certificate
- Engineering Leadership Certificate
- Metallurgical Engineering Certificate
- Nuclear Radiation and Reactor Analysis Certificate
- Nuclear Thermal Systems Analysis Certificate
- Polymer Science and Engineering Certificate
- Semiconductor Materials Certificate

Computer-Related Degrees

The Herbert Wertheim College of Engineering has responsibility for teaching all computer courses included in computer-related degree
programs at the University of Florida. These degrees are offered in the colleges of Business, Engineering, and Liberal Arts and Sciences.

**Computer Engineering Programs**

Computer Engineering (CPE) is a joint program of the Computer and Information Science and Engineering (CISE) and the Electrical and Computer Engineering (ECE) departments. The Bachelor of Science in Computer Engineering (BSCPE) is offered by both departments and requires 126 credits for graduation.

This degree program produces a computer engineer who has the knowledge of hardware and software to build working computer systems from electronic components and to program them for a variety of tasks.

Students with interests in software systems and algorithms should pursue a major through the CISE department; students with interests in computer hardware or electrical engineering should pursue a major through the ECE department.

Refer to the CISE and ECE department sections for the BSCPE degree curriculum. For additional information on computer engineering degree options, please contact an academic advisor in either department or the dean's office.

**Other Combined Degree Programs in Engineering**

Qualified students can pursue a bachelor's and a master's degree concurrently. These combined-degree programs are offered in all departments within the Herbert Wertheim College of Engineering.

More Info