

DOCUMENTS OF THE GENERAL FACULTY

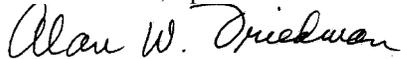
PROPOSED CHANGES TO THE DEGREES AND PROGRAMS SECTION IN THE COCKRELL SCHOOL OF ENGINEERING CHAPTER IN THE *UNDERGRADUATE CATALOG 2018-2020*

Dean Sharon L. Wood in the Cockrell School of Engineering has filed with the Secretary of the Faculty Council the following proposal to change the Degrees and Programs section in the Cockrell School of Engineering chapter in the *Undergraduate Catalog, 2018-2020*. The Degrees and Courses Committee approved the proposal on May 24, 2017; the Dean and the College faculty approved it on September 18, 2017. The Secretary has classified this proposal as legislation of exclusive interest to one college or school.

The Committee on Undergraduate Degree Program Review recommended approval of the proposal on December 5, 2017, and forwarded it to the Office of the General Faculty. The Faculty Council has the authority to approve this legislation on behalf of the General Faculty. The authority to grant final approval on this legislation resides with the Provost on behalf of the President.

If no objection is filed with the Office of the General Faculty by the date specified below, the legislation will be held to have been approved by the Faculty Council. If an objection is filed within the prescribed period, the legislation will be presented to the Faculty Council at its next meeting. The objection, with reasons, must be signed by a member of the Faculty Council.

To be counted, a protest must be received in the Office of the General Faculty by December 12, 2017.



Alan W. Friedman, Secretary of the General Faculty and Faculty Council
The University of Texas at Austin

Arthur J. Thaman and Wilhelmina Doré Thaman Professor of English and Comparative Literature

Person communicated with:

Date of communication:

Response:

- e. Does this proposal involve changes to the core curriculum or other basic education requirements (42-hour core, signature courses, flags)? If yes, explain:

If yes, Undergraduate Studies must be informed of the proposed changes and their response included:

Person communicated with:

Date of communication:

Response:

- f. Will this proposal change the number of hours required for degree completion? NO

Note: THECB Semester Credit Hour Change Form required, download from URL:

<http://www.thecb.state.tx.us/reports/DocFetch.cfm?DocID=2419&format=doc>

If yes, explain:

5. COLLEGE/SCHOOL APPROVAL PROCESS

Department approval date: May 24, 2017

CSE Degrees and Courses Committee

College approval date: September 18, 2017

CSE Faculty

Dean approval date: September 18, 2017

Sharon L. Wood, Dean

PROPOSED NEW CATALOG TEXT:

DEGREES AND PROGRAMS

{No change to this section}

Dual Degree Programs

Engineering/Plan II Honors Program

A limited number of students whose high school class standing and admission test scores indicate strong academic potential and motivation may pursue a curriculum leading to both a bachelor's degree in engineering and the Bachelor of Arts, Plan II. This dual degree option, offered jointly by the Cockrell School and the Plan II Honors Program of the College of Liberal Arts, provides the student with challenging liberal arts courses while he or she also pursues a professional degree in engineering. Admission to this program requires at least two separate applications: one to the University and one to the Plan II Honors Program. Students should contact both the Cockrell School Engineering Student Services Office, located in the Engineering Education and Research Center [~~Student Services Building~~] (EER[SS]), and the Plan II office, located in the Liberal Arts Building (CLA), for more information on applications and early deadlines.

Architectural Engineering/Architecture

{No change to this section}

Simultaneous Majors

An engineering student may pursue two majors simultaneously. The student must follow all procedures and meet all requirements associated with both majors. An engineering student may not pursue two engineering majors simultaneously.

The simultaneous major option is available only to undergraduates who have been admitted to both degree programs. [~~completed 30 hours of coursework in residence at the University and who have been admitted to both degree programs.~~]

Technical Area Options

{No change to this section}

Preparation for Professional School

{No change to this section}

Medical School

{No change to this section}

Dental School

{No change to this section}

Law School

Each year a few graduates, representing all engineering disciplines, elect to enter law school, where they find their training in careful and objective analysis is a distinct asset. Many of these students are preparing for careers in patent or corporate law that will enable them to draw on their combined knowledge of engineering and law. Others may not plan to use their engineering knowledge directly, but they still find that the discipline in logical reasoning acquired in an engineering education provides excellent preparation for the study of law. Students interested in admission to the law school of the University should consult the *Law School Catalog*. Students interested in pursuing law school outside of the University may utilize pre-law services of the Liberal Arts Career Service Center. In addition, the Engineering Career Assistance Center (ECAC) provides pre-law advising.

Graduate Study in Business

Since many engineering graduates advance rapidly into positions of administrative responsibility, it is not surprising that they often elect to do graduate work in the area of business administration. In addition to an understanding of the technical aspects of manufacturing, the engineer has the facility with mathematics to master the quantitative methods of modern business administration.

Requirements for admission to the University's graduate business programs are outlined in the *Graduate Catalog*. Many engineering degree programs offer technical area options that include business and management courses. These can be used with advantage by students who plan to do graduate-level work in business. Students interested in pursuing a graduate business program outside of the University may utilize the Engineering Career Assistance Center (ECAC) for career advising.

ABET Criteria

To be accredited by the Engineering Accreditation Commission of ABET, a degree plan of the Cockrell School must include the following:

1. One year of a combination of college level mathematics and basic sciences (some with experimental experience) appropriate to the discipline. Basic sciences are defined as biological, chemical, and physical sciences.
2. One and one-half years of engineering topics, consisting of engineering sciences and engineering design appropriate to the student's field of study. The engineering sciences have their roots in mathematics and basic sciences but carry knowledge further toward creative application. These studies provide a bridge between mathematics and basic sciences on the one hand and engineering practice on the other. Engineering design is the process of devising a system, component, or process to meet desired needs. It is a decision-making process (often iterative), in which the basic sciences, mathematics, and the engineering sciences are applied to convert resources optimally to meet these stated needs.

3. A general education component that complements the technical content of the curriculum and is consistent with the program and institution objectives.

Students must be prepared for engineering practice through a curriculum culminating in a major design experience based on the knowledge and skills acquired in earlier course work and incorporating appropriate engineering standards and multiple realistic constraints.

Here, one year is defined as either thirty-two [32] semester hours (or equivalent), or one-fourth of the total credits required for graduation, whichever is lesser.

Liberal Education of Engineers

Each student must complete the University's Core Curriculum. The core curriculum includes the first-year signature course and courses in English composition, American and Texas government, American history, mathematics, science and technology, visual and performing arts, humanities, and social and behavioral sciences. It must be an integral part of all engineering degree programs, so that engineering graduates will be aware of their social responsibilities and the effects of technology on society. The University of Texas at Austin believes every undergraduate should be exposed to a set of skills and experiences in preparation for a complex world. To this end, all undergraduates at UT are required to earn Flags—courses that include a substantial focus on cultural diversity in the U.S., ethics and leadership, global cultures, independent inquiry, quantitative reasoning, and writing.

With the appropriate selection of courses, the University's ~~core~~ Core Curriculum, Flags, and ABET general education requirements can be satisfied simultaneously.

Social and Behavioral Sciences Requirement

As part of the University's ~~core~~ Core Curriculum, each student must complete three semester hours of coursework in social and behavioral sciences. Additionally, the Core Curriculum social and behavioral science course may be satisfied simultaneously for flag requirement(s) as well as coursework in a potential minor and certificate program. ~~[Students preparing for the professional practice of engineering are encouraged to select coursework in economics to fulfill this requirement.]~~

Visual and Performing Arts Requirement

As part of the University's Core Curriculum, each student must complete three semester hours of coursework in visual and performing arts. Architectural engineering majors must take an approved architectural history course as part of the Bachelor of Science in Architectural Engineering requirement. This course (or its prerequisite) will fulfill the visual and performing arts requirement of the Core Curriculum. Additionally, the Core Curriculum visual and performing arts course may be satisfied simultaneously for flag requirement(s) as well as coursework in a potential minor and certificate program.

Foreign Language Requirement

{No change to this section}

Applicability of Certain Courses

Physical Activity Courses

{No change to this section}

ROTC Courses

{No change to this section}

Correspondence and Extension Courses

Credit that a University student in residence earns simultaneously by UT Austin correspondence/extension [~~from the university~~] or elsewhere [~~or in residence~~] or through distance education at another school will not be counted toward a degree in the Cockrell School unless specifically approved in advance by the dean.

Application for this approval should be made online or at the Engineering Student Services Office, located in the Engineering [~~Student Services Building~~] Education and Research Center (EER[ESS]). No more than twenty [~~20~~] semester hours required for any degree offered in the Cockrell School may be taken by correspondence and extension.

Requirements Included in All Engineering Degree Plans

Each student must complete the University's Core Curriculum. In the process of fulfilling engineering degree requirements, students must also complete: one independent inquiry flag, one quantitative reasoning flag, one ethics and leadership flag, one global cultures flag, one cultural diversity in the United States flag, and two writing flags. The independent inquiry flag, the quantitative reasoning flag, the ethics and leadership flag and at least one writing flag are carried by courses specifically required for each engineering degree plan. As applicable, students are advised to fulfill the second writing flag and global culture and cultural diversity requirements with a course that meets another requirement of the core curriculum, such as the first-year signature course. Students are encouraged to complete flag requirements within the first and second year of their degree program. Additionally, students are encouraged to discuss options with his or her departmental academic adviser. Courses that may be used to fulfill flag requirements are identified in the *Course Schedule*.

In addition, students in all engineering degree plans must complete the following requirements. In some cases, a course that fulfills one of the following requirements may also be counted toward core curriculum or flag requirements; these courses are identified below.

Courses	Sem Hrs
Engineering Communication	
<ul style="list-style-type: none"> Aerospace Engineering 333T, Biomedical Engineering 333T, Chemical Engineering 333T, Civil Engineering 333T, Electrical Engineering 333T, Mechanical Engineering 333T, or Petroleum and Geosystems Engineering 333T (This course may also be counted toward the writing flag requirement. This course may also be counted toward the ethics and leadership flag requirement.) 	3
Mathematics	
<ul style="list-style-type: none"> Mathematics 408C, <i>Differential and Integral Calculus</i> (This course may also be used to fulfill the mathematics requirement of the core curriculum and the quantitative reasoning flag requirement.) 	4
<ul style="list-style-type: none"> Mathematics 408D, <i>Sequences, Series, and Multivariable Calculus</i> 	4
<ul style="list-style-type: none"> Mathematics 427J, <i>Differential Equations with Linear Algebra</i> or Mathematics 427K, <i>Advanced Calculus for Applications I</i>. This course may also be used to fulfill the quantitative reasoning flag requirement.) 	4
Physics	
<ul style="list-style-type: none"> Physics 303K, <i>Engineering Physics I</i> (This course may also be counted toward the science and technology, part I, requirement of the core curriculum and the quantitative reasoning flag requirement.) 	3
<ul style="list-style-type: none"> Physics 103M, <i>Laboratory for Physics 303K</i> 	1
<ul style="list-style-type: none"> Physics 303L, <i>Engineering Physics II</i> (This course may also be counted toward the science 	3

and technology, part I, requirement of the core curriculum and the quantitative reasoning flag requirement.)	
• Physics 103N, <i>Laboratory for Physics 303L</i>	1

Length of Degree Program

An eight-semester arrangement of courses leading to the bachelor's degree is given for each of the engineering degree plans. The exact order in which the courses are taken is not critical, as long as the prerequisite for each course is fulfilled. A student who registers for fewer than the indicated number of hours each semester will need more than eight semesters to complete the degree. The student is responsible for including in each semester's work any courses that are prerequisite to those he or she will take the following semester.

~~[The first three semesters of all curricula contain many of the same courses. This commonality gives students some freedom to change degree plans without undue loss of credit.]~~