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| <input type="checkbox"/> Course in the core curriculum | <input type="checkbox"/> Change in course sequencing for an existing program | <input checked="" type="checkbox"/> Courses that have to be added to the inventory |
| <input type="checkbox"/> Change in admission requirements (external or internal) | <input type="checkbox"/> Requirements not explicit in the catalog language (e.g., lists of acceptable courses maintained by department office) | |

4. SCOPE OF PROPOSED CHANGE:

- a. Does this proposal impact other colleges/schools? Yes No
 If yes, then how would you do so?
- b. Do you anticipate a net change in the number of students in your college? Yes No
 If yes, how many more (or fewer) students do you expect?
- c. Do you anticipate a net increase (or decrease) in the number of students from outside of your college taking classes in your college? Yes No
 If yes, please indicate the number of students and/or class seats involved.
- d. Do you anticipate a net increase (or decrease) in the number of students from your college taking courses in other colleges? Yes No
 If yes, please indicate the number of students and/or class seats involved.

**If 4 a, b, c, or d was answered with yes, please answer the following questions:
 If the proposal has potential budgetary impacts for another college/school, such as requiring new sections or a non-negligible increase in the number of seats offered, at least one contact must be at the college-level.**

How many students do you expect to be impacted?
 Impacted schools must be contacted and their response(s) included:
 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 12, 2017	Dr. Noel Clemens, Chair
	May 11, 2017	ASE/EM Faculty
	April 27, 2017	COE Undergraduate Curriculum Committee
College approval date:	May 24, 2017	CSE Degrees & Courses Committee
Dean approval date:	Sept. 18, 2017	CSE Faculty; Sharon L. Wood, Dean

PROPOSED NEW CATALOG TEXT:⁴

BACHELOR OF SCIENCE IN COMPUTATIONAL ENGINEERING

{No changes up to this point.}

Program Educational Objectives

Within a few years of graduation, computational engineering graduates should:

- Contribute to the economic development of Texas and beyond through the ethical practice of computational engineering in industry and public service
- Exhibit leadership in technical or business activity through engineering ability, communication skills, and knowledge of contemporary and global issues
- Continue to educate themselves through professional study and personal research
- Be prepared for admission to, and to excel in, the best graduate programs in the world
- ~~Design systems to collect, encode, store, transmit, and process energy and information, and to evaluate system performance, either individually or in teams~~
- Use their engineering ability and creative potential to create technology that will improve the quality of life in society

Portable Computing Devices

Students entering computational engineering are required to have access to a portable computing device capable of running the software tools required for undergraduate engineering analyses (~~[MatLab]~~ MATLAB, SOLIDWORKS, Word, Excel, etc) and accessing to the remote server for the department. This device does not need to be brought to campus on a daily basis, but individual courses may require that the device be brought to certain lectures, labs, and/or exams. ~~[Once admitted, students will be informed by the Aerospace Engineering and Engineering Mechanics Department office about specific device requirements.]~~ Minimum and recommended specifications may be found on the department website.

Curriculum

Course requirements include courses within the Cockrell School of Engineering and other required courses. In addition, each student must complete the University’s Core Curriculum. 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.

In the process of fulfilling engineering degree requirements, students must also complete coursework to satisfy the following flag requirements: 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 both writing flags are carried by courses specifically required for the degree; these courses are identified below. Courses that may be used to fulfill flag requirements are identified in the *Course Schedule*.

Courses used to fulfill technical elective requirements must be approved by the computational engineering faculty before the student enrolls in them.

The student must take all courses required for the degree on the letter-grade basis and must earn a grade of at least C- in each course, except for those listed as Remaining Core Curriculum Courses. He or she must also maintain grade point averages of at least 2.00 in the major area of study and in required technical courses as described in Academic Standards, and a cumulative University grade point average of at least 2.00 as described in *General Information*.

Requirements		Hours
Computational Engineering Courses		
[COE 111L]	Engineering Computation Laboratory	4]
COE [211K] <u>311K</u>	Engineering Computation	<u>3</u> [2]
COE 301	Introduction to Computer Programming	3
<u>COE 321K</u>	<u>Computational Methods for Structural Analysis</u>	<u>3</u>

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<u>COE 322</u>	<u>Intro to Scientific Computation</u>	<u>3</u>
<u>COE 332</u>	<u>Software Engineering</u>	<u>3</u>
<u>COE 347</u>	<u>Introduction to Computational Fluid Dynamics</u>	<u>3</u>
COE 352	Advanced Scientific Computation	3
COE 371	Applied Mathematics I	3
COE 372	Applied Mathematics II	3
[COE 373	Systems Engineering Design	3]
COE 374	Senior Design Project (writing flag and independent inquiry flag)	3
Aerospace Engineering		
ASE 320	Low-Speed Aerodynamics	3
[ASE 321K	Computational Methods for Structural Analysis	3]
ASE 330M	Linear System Analysis	3
ASE 333T	Engineering Communication (writing flag and ethics and leadership flag)	3
[ASE 347	Introduction to Computational Fluid Dynamics	3]
ASE 375	Electromechanical Systems	3
Chemistry		
CH 301	Principles of Chemistry I (part II science and technology)	3
Engineering Mechanics		
E M 306	Statics	3
E M 311M	Dynamics	3
E M 319	Mechanics of Solids	3
Mathematics		
M 408C	Differential and Integral Calculus (mathematics; quantitative reasoning flag)	4
M 408D	Sequences, Series, and Multivariable Calculus	4
M 427J	Differential Equations with Linear Algebra (quantitative reasoning flag)	4
or M 427K	Advanced Calculus for Applications I	
M 427L	Advanced Calculus for Applications II	4
M 362K	Probability I	3
Mechanical Engineering Courses		
M E 210	Engineering Design Graphics	2
M E [320] <u>310T</u>	Applied Thermodynamics	3
Physics		
PHY 103M	Laboratory for Physics 303K	1
PHY 103N	Laboratory for Physics 303L	1
PHY 303K	Engineering Physics I (part I science and technology; quantitative reasoning flag)	3

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PHY 303L	Engineering Physics II (part I science and technology; quantitative reasoning flag)	3
Other required courses		
Approved technical electives		<u>2</u> [6]
[SDS 322	Introduction to Scientific Programming	3
[SDS 329C	Practical Linear Algebra I	3
Rhetoric and Writing		
RHE 306	Rhetoric and Writing (English composition)	3
Remaining Core Curriculum Courses		
E 316L	British Literature (humanities; in E 316L, 316M, 316N, and 316P some sections carry a global cultures or cultural diversity flag)	3
or E 316M	American Literature (<u>humanities; some sections carry a global cultures or cultural diversity flag</u>)	
or E 316N	World Literature (<u>humanities; some sections carry a global cultures or cultural diversity flag</u>)	
or E 316P	Masterworks of Literature (<u>humanities; some sections carry a global cultures or cultural diversity flag</u>)	
American and Texas government (some sections carry a cultural diversity flag)		6
American history (some sections carry a cultural diversity flag)		6
Social and behavioral sciences (some sections carry a global cultures and/or cultural diversity flag)		3
Visual and performing arts (some sections carry a global cultures and/or cultural diversity flag)		3
UGS 302	First-Year Signature Course (in UGS 302 all sections carry writing flag; in UGS 303 some sections carry a writing flag)	3
or UGS 303	First-Year Signature Course (<u>in UGS 303 some sections carry a writing flag</u>)	
Total Hours		122

SUGGESTED ARRANGEMENT OF COURSES

First Year

First Term	Hours	Second Term	Hours
UGS 302 or 303	3	COE 301	3
CH 301	3	M 408D	4
M 408C	4	PHY 303K	3
RHE 306	3	PHY 103M	1
Social and behavioral sciences or visual and performing arts	3	[American and Texas government] <u>ME 210</u>	<u>2</u> [3]
		American history	3
	16		<u>16</u> [47]

Second Year

First Term	Hours	Second Term	Hours
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E M 306	3	COE 244K <u>311K</u>	<u>3</u> [2]
M 427J or 427K	4	[COE 444L]	[4]
PHY 303L	3	E M 311M	3
PHY 103N	1	[E M 319] <u>COE 332</u>	3
[M E 240] <u>COE 322</u>	<u>3</u> [2]	M 427L	4
<u>M E 310T</u>	3	[ASE 333T] <u>American and Texas government</u>	3
	<u>17</u> [16]		16

Third Year

First Term	Hours	Second Term	Hours
ASE 320	3	[ASE] COE 321K	3
[ASE 330M] <u>COE 352</u>	3	ASE COE 347	3
M 362K	3	[SDS 322] <u>ASE 330M</u>	3
[SDS 329C] <u>E M 319</u>	3	[American and Texas government] <u>E 316L, 316M, 316N, or 316P</u>	3
[E 316L, 316M, 316N, or 316P] <u>ASE 333T</u>	3	[Social and behavioral sciences or visual and performing arts] <u>Technical elective</u>	3
	15		15

Fourth Year

First Term	Hours	Second Term	Hours
ASE 375	3	COE 372	3
[COE 352] <u>Social and behavioral sciences or visual and performing arts</u>	3	COE 374	3
COE 371	3	American history	3
[COE 373] <u>American and Texas government</u>	3	Technical elective	3
Technical elective	3		
	15		12

Total credit hours: 122

¹ See <https://facultycouncil.utexas.edu/degree-program-changes> for detailed explanations.

² Submit required Texas Higher Education Coordinating Board forms to the provost's office (lydia.cornell@austin.utexas.edu); downloadable from URL <https://facultycouncil.utexas.edu/theeb-forms>

³ **EXCLUSIVE:** of exclusive application and of primary interest only to a single college or school ("no protest" period is seven calendar days); **GENERAL:** of general interest to more than one college or school (but not for submission to the General Faculty) ("no protest" period is fourteen calendar days); major legislation must be submitted to the General Faculty for adoption ("no protest" period is fourteen calendar days).

⁴ The proposed text should be based on the text of the current catalog available at: <http://catalog.utexas.edu/undergraduate/>

Strike through and replace (with underlines) only the specific language to be changed. Do NOT use track changes, and do not include hyperlinks in the catalog copy. Submit form electronically to the Office of the General Faculty and Faculty Council at fc@austin.utexas.edu. For questions on completing this section, please contact Victoria Cervantes, vc@austin.utexas.edu, 471-5934 or Brenda Schumann, brenda.schumann@austin.utexas.edu, 475-7654.