

CAC #488
APPENDIX

General Education for College of Engineering

Faculty Senate Bill #09-10--14: University College and General Education Committee Report #2009-10-5. Approved by the Faculty Senate on January 28, 2010 and by President Dooley on February 12, 2010.

General Education Requirements for the College of Engineering

The UCGE Committee recommends that the Faculty Senate approve the following modification to the University General Education requirements:*

Engineering majors would take 39 credits of General Education Course work as follows:

- For breadth, at least three credits in each of the seven General Education categories: Ecw, A, FC, L, MQ, N, and S (minimum of 21 credits)
- For depth, at least three additional credits in three different Gen Ed categories (minimum of 9 additional credits)
- For flexibility, the remaining General Education credits required to total 39 credits would be coursework taken in any of the seven

**These changes are modifications of the existing University General Education requirements outlined in sections 8.20.10-8.20.20 of the UNIVERSITY MANUAL, allowing an additional 3 credits to the number of credits that may be reduced in (A, FC, L, or S) and adding (EC) to the list of core areas which may be reduced from 6 to 3 credits.*

**COLLEGE OF ENGINEERING
CVE REVISED CURRICULUM
2/11/11**

CVE has revised its undergraduate curriculum as follows:

- Include a new, one credit, course, CVE 400 - Civil Engineering Licensure (Fall senior year).
- Specify one of the two writing/communications Gen Ed courses to be WRT 333 – Scientific and Technical Writing, in order to improve students’ scientific and technical writing skills.
- Require **CHM 112 – General Chemistry II Lecture**, ELE 220 - Passive and Active Circuits, ISE 404 - Engineering Economy and Project Planning, and MCE 341 - Fundamentals of Thermodynamics. This follows our efforts to better prepare students for the Fundamentals of Engineering Exam (FE). These replace previously required electives.

The total number of credits increases by one to 124 credits (due to CVE 400).

General Education Compliance:

6 English Communication. *Six credits* in English communication. **Three credits** need to be WRT 333 and three additional credits selected from the list in the bulletin. (6)

3 Fine Arts and Literature. *Three credits* in courses on artistic and literary expression and interpretation. (3)

3 Foreign Language/Cross-cultural Competence. *Three credits* or the equivalent in coursework related to communicating across cultures. (3)

3 Letters. *Three credits* in courses that address the wisdom and traditions of the past and present in a global setting. (3)

6 Social Sciences. *Three credits* of a required course ECN 201 (3) and three additional credits selected from the list in the bulletin. (6)

18 Natural Sciences: (*18 credits* of required courses) CHM 101 (3), GEO 103 (4), PHY 203/273 (4), PHY 204/274 (4), CHM 112 (3).

8 Mathematical and Quantitative Reasoning. (*8 credits* of required courses) MTH 141 (4) and MTH 142 (4)

Including EGR105, the College of Engineering equivalent of URI 101, we have 48 General Education credits in the CVE curriculum.

ECBE Curriculum Changes Feb. 2011

1. **Electrical Engineering:** Add an additional senior elective; the result (after the drop of one GenEd course due to counting MTH 142) would be 122-124 credits:

a. Senior electives:

Senior year – Total credits for two semesters: 29-~~32~~ 31. See your advisor for help in preparing a suitable program.

ELE 400 (1), 480 (3), 481 (3), general education requirements (6 9), free elective (3), **three** two Electrical Engineering Design Electives (**10-12** 7-8; details follow), and one Professional Elective (3-4; details follow).

Electrical Engineering Design Electives. May be chosen as any **three** two of the following: ELE 401/402, 423, 427/428, 432, 435/436, 444/445, 447/448, 457, 458/459. **At least one must include its lab component. Furthermore, one must be from ELE 401/402, 423, 432, 444/445, 447/448.**

Professional Elective. One course chosen from BME 462; BME/ELE 461; ELE 305, 405/406, 408/409, 437, 438, 470, or an additional Electrical Engineering Design Elective (see above); MTH 215; or, by prior approval of the chair of ECBE, any junior or senior level College of Engineering course not required by the EE major.

b. Freshman EE seminar:

ELE 101 Introduction to Electrical Engineering (1)

Seminar series given by instructor, invited experts, and students with focus on electrical engineering. Pre: (credit or concurrent enrollment in MTH 141) or permission of instructor.

2. Computer Engineering and Biomedical Engineering: Drop one GenEd course due to counting MTH 142; the resulting credit counts reduce to 120-123 for CPE and 122-123 for BME.

Curricula for ECBE for academic year 2015:

- need to adjust now that MTH 142 is a GenEd course
- as shown in the table below, all three programs (EE, CPE, BME) require a depth course in EC/ECw
- EE satisfies all of the Flexibility credits with required science course
- CPE and BME need two (2) additional GenEd credits to meet the 39-credit minimum.

	Electrical	Computer	Biomedical	
Total credits	123-126	120-123	122-123	credits
Breadth				22
EC/ECw	WRT	WRT	WRT	3
A				3
FC				3
L				3
N	CHM 101	CHM 101	CHM 101	3
MQ	MTH 141	MTH 141	MTH 141	4
S	ECN 201	ECN 201	ECN 201	3
Depth				10
N				3
EC/ECw				3
MQ				4
Flexibility				8
?	PHY 204	PHY 204	PHY 204	3
?	PHY 273	PHY 273	PHY 273	1
?	PHY 274	PHY 274	PHY 274	1
?	PHY 205	*	*	

* additional MQ GenEd courses are restricted to MTH 111 (only if taken prior to passing MTH 141), BUS 111, and STA 220.