

**EXECUTIVE COMMITTEE  
BOURNS COLLEGE OF ENGINEERING  
REPORT TO THE RIVERSIDE DIVISION  
MAY 21, 2019**

To be adopted:

PROPOSED CHANGE TO CHEMICAL ENGINEERING UNDERGRADUATE REQUIREMENTS

**PRESENT:**

**Major Requirements  
Chemical Engineering**

Students must choose either a Biochemical Engineering, Chemical Engineering or Nanotechnology option.

1. Lower-division requirements (76 units)
  - a) BIOL 005A, BIOL 05LA
  - b) CHEM 001A, CHEM 001B, CHEM 001C, CHEM 01LA, CHEM 01LB, CHEM 01LC, CHEM 008A, CHEM 008B, CHEM 008C, CHEM 08LA, CHEM 08LB, CHEM 08LC
  - c) CS 010
  - d) MATH 008B or MATH 009A, MATH 009B, MATH 009C, MATH 010A, MATH 010B, MATH 046
  - e) PHYS 040A, PHYS 040B, PHYS 040C
  - f) CEE 010
2. Upper-division requirements (63 units)
  - a) CEE 158
  - b) CHE 100, CHE 110A, CHE 110B, CHE 114, CHE 116, CHE 117, CHE 118, CHE 120, CHE 122, CHE 160B, CHE 160C, CHE 175A, CHE 175B
  - c) CHE 130/ENVE 130, CHE 160A/ENVE 160A
  - d) ENGR 118
3. Option requirements: choose one option
  - a) Biochemical Engineering option (18 units)
    - (1) BCH110A/BCH 100
    - (2) CHE 124, CHE 124L, CHE140
    - (3) Four (4) units of technical electives chosen from BIEN 125, BIEN 140A/CEE 140A, BIEN 159/CEE 159, BIOL 121/MCBL 121, CEE 125, CEE 132, CEE 135, CHE 102, CHE 150
  - b) Chemical Engineering option (16 units)

**PROPOSED:**

**Major Requirements  
Chemical Engineering**

Students must choose either a Biochemical Engineering, Chemical Engineering or Nanotechnology option.

1. Lower-division requirements (76 units)
  - a) No change
  - b) No change
  - c) No change
  - d) No change
  - e) No change
  - f) No change
2. Upper-division requirements (63 units)
  - a) No change
  - b) No change
  - c) No change
  - d) No change
3. Option requirements: choose one option
  - a) Biochemical Engineering option (18 units)
    - (1) No change
    - (2) No change
    - (3) No change
  - b) Chemical Engineering option (16 units):

(1) Sixteen (16) units of technical electives chosen from ~~CEE 125~~, CEE 132, ~~CEE 135~~, CHE 102, CHE 131, CHE 136, CHE 171, ENVE 120, ENVE 133, ENVE 134, ENVE 138

(1) Sixteen (16) units of technical electives chosen from CEE 125 or CEE 135, CEE 132, CHE 102, CHE 131, CHE 136, CHE 171, ENVE 120, ENVE 133, ENVE 134, ENVE 138

c) Nanotechnology option (19 units)

- (1) CHE 105
- (2) CHE 161
- (3) CEE 135
- (4) Eight (8) units of technical electives chosen from CHE 102, CHE 131, ENVE 133, ME 114, MSE 160, MSE 161

c) Nanotechnology option (19 units):

- (1) No change
- (2) No change
- (3) No change
- (4) No change

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**Justification:**

Our accreditation draft findings report (ABET) for Chemical Engineering (CHE) curricula found that neither CEE 135 nor CEE 125 had sufficient engineering content to count toward ABET's 72 unit minimum engineering requirement. Currently, students in Chemical Engineering (Chemical Engineering Option) can take both CEE 135 or CEE 125 for technical elective (TE) credit leaving students with the ability to only take two other courses (8 units) for TE credit that count toward the ABET designated engineering credit. By allowing students in Chemical Engineering (Chemical Engineering Option) to only receive credit for CEE 125 or CEE 135 (current proposal), the students must take three other courses in the TE list (12 units) that count toward the ABET designated engineering credit. The increase of 4 units of ABET designated engineering credit lifts the Chemical Engineering (Chemical Engineering Option) above the 72 unit engineering minimum for accreditation.

**Approvals:**

Approved by the faculty of the Department of Chemical and Environmental Engineering:

November 27, 2018

Approved by the Executive Committee of Bourns College of Engineering:

March 22, 2019

Approved by the Committee on Educational Policy:

April 17, 2019