

Electives (12 credits)

CENG Electives x 4 chosen from:

Area 1: Chemical Process Design

CENG 4130 Plant Design and Economics
 CENG 4140 Energy Resources, Conversions and Technologies
 CENG 4620 Bioproducts and Processing
 CENG 4630 Food Processing Technology
 CENG 4670 Pharmaceutical Engineering
 CENG 4710 Environmental Control

Area 2: Chemical Product Design

CENG 4540 Nanomaterials and Applications in ChE
 CENG 4640 Biomolecular Engineering
 CENG 4650 Biomaterials, Drug Delivery and Tissue Engineering
 CENG 4950 CHEM-E-CAR (Pre-approved elective)
 CHEM 2311 Analytical Chemistry

Final Year Project (6 credits)

[6] CENG4920 (Captstone)
 Or [6] CENG4930* (Research)
 Or [6] CENG4940 (Co-op)

Research Option (6 credits)

[3] CENG4980 and
 [3] CENG4980 or any
 5000-level course in
 CENG or BIEN)

*Students taking the
 Research Option must
 take CENG4930

Credit Requirement

CENG Major: 87-91

Common Core: 36

(9 credits of double-counting allowed)

Pre-requisite →

Co-requisite - - - - - →

Fall Offering

Spring Offering

Offering in both semester

Year Long

Introduction (6 credits)

Intro. to CBE
 [3] CENG1000

Or

Materials
 [3] CENG1500

Intro to Envr. Engg.
 [3] CENG1700

Or

Intro to BME
 [3] BIEN1010

Or

Biotechnology
 [3] CENG1600

ChE Design (14 credits)

Integrated Process and Product Design
 [5] CENG3150

Process Dyn. & Control
 [3] CENG3110

Process & Product Design Principles
 [3] CENG2110

Modeling for Chemical & Biological
 Engineering [3] CENG2310

Separation
 Process
 [3] CENG3210

Transport II
 [3] CENG3220

Transport I
 [3] CENG2220

ChE Science (15 credits)

Reaction and
 Reactor Engg.
 [3] CENG3230

CBE Thermo.
 [3] CENG2210

Others (6 credits)

Industrial Training
 (modules throughout 4 years)
 [0] CENG1980

Academic &
 Professional
 Development
 [0] CENG1010
 & CENG4020

Engineering
 Seminars
 [0] ENGG1010
 & ENGG2010

Tech. Comm.
 II [3]
 LANG4035

Tech. Comm.
 I [3]
 LANG2030

Math. & Science (24-28 credits)

Intro to Comp [3-4]
 COMP1021 or
 COMP1022P or
 COMP2011 or
 COMP2012H

Biology [3]
 BIEN2410/BIEN2610
 /LIFS1901

Calculus I [3-4]
 MATH1012/1013/
 1023

Calculus II [3]
 MATH1014/1024

Or
 Acc. Calculus
 [4] MATH1020

Multivariable
 Calculus
 [3] MATH2011

General Phys. I [3]
 PHYS1112/PHYS1312

General Chem. I [3]
 CHEM1020

Organic
 Chem. [3]
 CHEM2111

General Chem. Lab [1]
 CHEM1050

Org Chem.
 Lab [1]
 CHEM2155