

ChE Curriculum 2019-2020

Freshman Year

First Semester

MATH 123	Calculus I	4
CHEM 112	General Chemistry I	3
CHEM 112L	General Chemistry I Lab	1
CBE 111/111L	Intro. Chem. Proc. Mod.	2
ENGL 101	Composition I	3
Humanities or Social Sciences Elective(s)		3
TOTAL		16

Second Semester

MATH 125	Calculus II	4
CHEM 114	General Chemistry II	3
CHEM 114L	General Chemistry II Lab	1
PHYS 211	University Physics I	3
CBE 117L	Programming for CBE	1
Humanities or Social Sciences Elective(s)		6
TOTAL		18

Sophomore Year

First Semester

CBE 217	ChemE Material Balances	3
MATH 321	Differential Equations	3
Biology Elective		3
CHEM 326	Organic Chemistry I	3
CHEM 220L	Exp. Organic Chem. IA	1
PHYS 213	University Physics II	3
TOTAL		16

Second Semester

CBE 218	ChemE. Fluid Mech.	3
CBE 222	ChemE Process Thermo	3
CBE 250	Computer App. in ChemE	2
CHEM 328	Organic Chemistry II	3
MATH 225	Calculus III	4
ENGL 279	Technical Communications I	3
TOTAL		18

Junior Year

First Semester

CBE 317	ChemE Heat Transfer	3
CBE 321	ChemE Equil. Thermo	3
CBE 333	Process Measure and Control	1
CBE 333L	ChemE Process Controls Lab	1
CBE 361L	ChemE Fluids Lab	1
CHEM 332	Analytical Chem for Engr	2
CHEM 332L	Analytical Chem Lab	1
CHEM 342	Physical Chem I	2
ENGL 289	Technical Communications II	3
TOTAL		17

Second Semester

CBE 318	ChemE Mass Transfer	3
CBE 343	Chem Kinetics/Reactor Dsgn	3
CBE 362L	ChemE Heat Transfer Lab	1
CBE 417	ChemE Equilibrium Seps	2
CHEM 344	Physical Chem II	2
CHEM 344L	Physical Chem II Lab	1
Engineering Elective		3
Hum/SS Elective(s)		3
TOTAL		18

Senior Year

First Semester

CBE 433	Process Control	3
CBE 463	Process Design & Econ for ChE	3
CBE 465	Chemical Process Safety	2
Chemical Engineering Elective		4
Department Approved Elective		3
Total		15

Second Semester

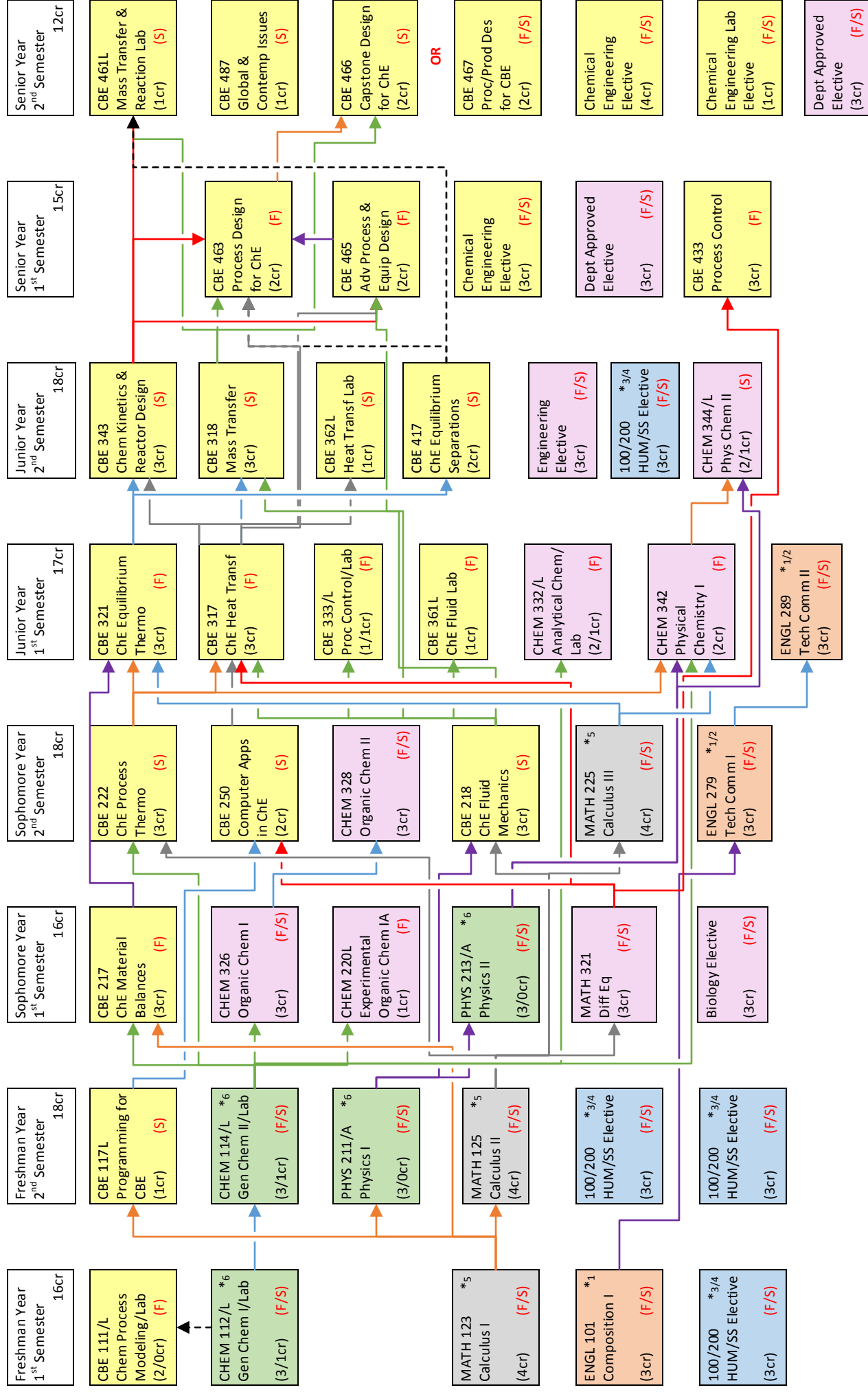
CBE 461L	ChemE Mass Trans/Reac Eng Lab	1
CBE 466	Capstone Design for ChE	[2]
or		or
CBE 467	Proc/Product Design for CBE	[2]
CBE 487	Global and Cont Issues in ChemE	1
Chemical Engineering Elective		4
Chemical Engineering Lab Elective		1
Department Approved Elective		3
TOTAL		12

130 credits required for graduation

Curriculum Notes

- Board of Regents General Education Requirements: Students, working in conjunction with their advisor, need to ensure General Education Requirements are completed in the required timeframe. Hum/SS electives require 6 cr hr each from Humanities and Social Sciences.
- Optional specialization and emphases in ChE: The academic advisor recommends and approves courses to take if students are interested in a specialization in biochemical engineering or an emphasis in: advanced materials (nano materials, polymers, ceramics, materials processing, corrosion, or solid state/semi-conductors), biomedical engineering, energy technology, environmental engineering, or petroleum engineering.
- BIOL Elective (3): Select 3 credits from BIOL 341, 371 or other approved by advisor.
- ChE Elective (8): Select 8 credits from CBE 410/410L, 424, 434/434L, 444, 450, 455, 467, 474, 474L, 475, 476, 482, 483, 484, 484L, 485, 485L, 486, 488, 489, 491, 492, 498 or others approved by advisor.
- ChE Lab Elective (1): Select 1 credit from CBE 410L, 434L, 474L, 484L, 485L, 498 or other approved by advisor.
- Engineering Elective (3): Select 3 credits from engineering courses other than CBE prefix; requires advisor approval. These courses are typically at a 200 level or higher.
- Department Approved Elective (6): Select from the following: CBE, Chem, or other approved courses to fulfill emphasis electives. These courses are typically at a 120 level or higher. May include up to three (3) credits of advanced military science, up to six (6) credits of cooperative education (CP 297, CP 397, OR CP 497), up to six (6) credits (total in any category) CBE 467, up to three (3) credits of 300 level or above Humanities, Social Sciences or Business, or one (1) credit of PE or MUEN.

BS Chemical Engineering Curriculum Flowchart (2019) – 130 credits



Courses that are offered in Fall ONLY or Spring ONLY are indicated by F or S semesters, respectively. Courses indicated F/S are offered Fall and Spring semesters.

*1-6 Indicates courses that may be used to satisfy goals 1-6 of the system general education requirements.

Refer to the 2016-17 academic catalog for additional information regarding system general education requirements, elective courses, pre-/co-requisites and grade requirements.

A list of approved or recommended electives and other supplemental information may be obtained from your academic department

Revised: June 2019