

First Year

Sophomore Year

Junior Year

Senior Year

Fall__

Spring__

Fall__

Spring__

Fall__

Spring__

Fall__

Spring__

Discovery 1		
Biological Sciences		
SEM	CR	GRADE
	4	

Discovery 2		
Fine Arts		
SEM	CR	GRADE
	4	

Discovery 4		
Historical Perspectives		
SEM	CR	GRADE
	4	

Discovery 5		
World Culture		
SEM	CR	GRADE
	4	

Discovery 6		
Social Science		
SEM	CR	GRADE
	4	

ENGL 401*		
First Year Writing		
SEM	CR	GRADE
	4	

Discovery 3		
Humanities		
SEM	CR	GRADE
	4	

CHE 501		
Intro to Chem Eng 1		
SEM	CR	GRADE
	3	

CHE 502		
Intro to Chem Eng 2 Discovery Inquiry		
SEM	CR	GRADE
	3	

CHE 601		
Fluid Mechanics		
SEM	CR	GRADE
	3	

CHE 602		
Heat Transfer		
SEM	CR	GRADE
	3	

CHE 703		
Mass Transfer		
SEM	CR	GRADE
	3	

CHE 752		
Process Control		
SEM	CR	GRADE
	4	

Incoming students
see "Advising Notes"
on back page

MATH 425		
Calculus 1 Discovery QR		
SEM	CR	GRADE
	4	

MATH 426		
Calculus 2		
SEM	CR	GRADE
	4	

MATH 527		
Diff Equations		
SEM	CR	GRADE
	4	

CHE 603		
Applied Math		
SEM	CR	GRADE
	4	

MATH 740		
Tech & Option Elective or MATH 644 in spring		
SEM	CR	GRADE
	4	

Bio Option Elective		
Option Elective 2		
SEM	CR	GRADE
	4	

PHYS 407		
Physics 1 Discovery PS		
SEM	CR	GRADE
	4	

PHYS 408		
Physics 2		
SEM	CR	GRADE
	4	

CHE 614		
Separation Processes		
SEM	CR	GRADE
	3	

CHE 651		
Biomanufacturing		
SEM	CR	GRADE
	4	

CHE 604		
ChE Thermodynamics		
SEM	CR	GRADE
	3	

CHE 707		
ChE Kinetics		
SEM	CR	GRADE
	3	

CHE 708*		
Capstone Design		
SEM	CR	GRADE
	4	

CHE 400		
ChE Lectures		
SEM	CR	GRADE
	1	

CHEM 683		
Physical Chemistry 1		
SEM	CR	GRADE
	3	

CHEM 684		
Physical Chemistry 2		
SEM	CR	GRADE
	3	

CHEM 651		
Organic Chemistry 1		
SEM	CR	GRADE
	3	

CHEM 652A		
Organic Chemistry 2		
SEM	CR	GRADE
	3	

CHE 761		
Biochemical Engineering		
SEM	CR	GRADE
	4	

CHE 762		
Biomedical Engineering		
SEM	CR	GRADE
	4	

CHEM 405		
General Chemistry		
SEM	CR	GRADE
	4	

CHEM 685		
Physical Chemistry Lab		
SEM	CR	GRADE
	2	

CHEM 686		
Physical Chemistry Lab		
SEM	CR	GRADE
	2	

CHEM 653		
Organic Chemistry Lab		
SEM	CR	GRADE
	2	

CHE 612*		
Unit Operations Lab 1		
SEM	CR	GRADE
	3	

CHE 713*		
Unit Operations Lab 2		
SEM	CR	GRADE
	3	

Sem: 16
Cum: 16

Sem: 17
Cum: 33

Sem: 16
Cum: 49

Sem: 15
Cum: 64

Sem: 16
Cum: 81

Sem: 16
Cum: 96

Sem: 17
Cum: 113

Sem: 20
Cum: 133

Continuous line = prerequisite, dashed line = pre- or co-requisite, solid corner triangle=critical path, *=WI

Green - ChE; Red - Discovery Program; Black - Other

Advising Notes (Chemical Engineering) WITH OPTION (Bioengineering, Energy or Environmental)

No MATH 418 – Incoming students without AP credit should attempt to place into MATH 425. If successful, move the math sequence up one semester.

AP Math – A 4 on the AB exam or a 3 on the BC exam gives credit for MATH 425. Students may choose to take MATH 425 anyway. With a 5 on the AB exam, students should use the AP credit and start with MATH 426. With a 4 on the BC exam, the student also gets credit for 426 but may choose to take 426 anyway. With a 5 on the BC exam, the student should use the AP credits and start with MATH 527.

Discovery Requirements

Discovery Foundations

One course in writing skills (ENGL 401)
 One course in quantitative reasoning (MATH 425)

Inquiry

One Inquiry course (CHE 502)

Discovery in the Disciplines

Biological Science	Physical Science (PHYS 407 OR CHEM 405)
Fine and Performing Arts	Humanities
Historical Perspectives	World Cultures
Social Science	Environment, Technology and Society (ChE students are exempt)

Students must take one course in each category at the 400 – 600 level

Discovery and Integrative Understanding

Senior Capstone Experience/Course (CHE 708)

Students must get an average grade of C or better in CHE 501/502 to continue in the program.

Students must earn at least 133 credits with a minimum 2.0 GPA overall to graduate. This is based on the assumption that students start the program with MATH 425 and not MATH 418. If students start with MATH 418, they will need 137 credits to graduate if they choose an option.

Study Abroad (Exchange) Chemical engineering students are required to have a cumulative GPA of 3.00 or better in Math, Physics, Chemistry and CHE courses at the end of the semester prior to their exchange semester.

Students must have a grade point average of 3.0 or higher if they plan to do an Independent Project (CHE 695) to satisfy an Option elective or otherwise. Please note that Independent Project or Study cannot be used to satisfy a ChE elective or Tech Elective. Students who wish to do an Independent Study must complete a form (click [here](#) to download form) and get the approval of the Instructor and Department Chair.

Please note that you can only register for 20 credits per semester. Also, when you pre-register for classes, you may only register for 18 credits maximum. To register for 20 credits per semester, please pre-register for 16-17 credits and then do an add/drop for the remaining 4 or 3 credits (total 20) at the beginning of the semester.

Options

Departmental options provide our students with an additional opportunity to focus on special areas of interest. Currently, the available options are

- [Bioengineering](#)
- [Energy](#)
- [Environment](#)