





## FIRST YEAR

### FALL SEMESTER

<b>GE A</b>  4	<b>WRIT 150</b> 4	<b>MATH 125 (GE F)</b>  4	<b>CHEM 105aL (GE E)</b>  4	<b>ENGR 102</b> 2
---	----------------------	--	--	----------------------

### SPRING SEMESTER

<b>CHE 120</b> (MATH 125, CHEM 105aL) 3	<b>CHE 205</b> MATH 125 3	<b>MATH 126 or MATH 129</b> MATH 125  4	<b>CHEM 105bL</b> CHEM 105aL 4	<b>PHYS 151L (GE E)</b> MATH 125 or 126 or 226 4
---	---------------------------------	---	--------------------------------------	--

## SECOND YEAR

### FALL SEMESTER

<b>CHE 330</b> (MATH 226) 3	<b>CHEM 300L</b> CHEM 105bL 4	<b>MATH 226 or MATH 229</b> MATH 126 or MATH 129 4	<b>PHYS 152L</b> PHYS 151L, (MATH 226) 4	<b>OPTIONAL ELECTIVE</b> 3
-----------------------------------	-------------------------------------	--	--	-------------------------------

### SPRING SEMESTER

<b>GE B</b> 4	<b>CHEM 322aL</b> CHEM 105bL 4	<b>MATH 245</b> MATH 226 or MATH 229 4	<b>CHE 350</b> CHEM 105bL 3	<b>WRIT 340</b> WRIT 150 3
------------------	--------------------------------------	--	-----------------------------------	----------------------------------

## THIRD YEAR

### FALL SEMESTER

<b>GEC</b> 4	<b>CHEM 430</b> CHEM 300L or 322aL, MATH 226, PHYS 151L 4	<b>CHE 442</b> MATH 245 3	<b>CHE 487</b> CHEM 105aL or MASC 110L 3	<b>OPTIONAL ELECTIVE</b> 4
-----------------	---	---------------------------------	--	-------------------------------

### SPRING SEMESTER

<b>CHEM 453</b> CHEM 105bL, 322aL 4	<b>CHE 444aL</b> CHE 330, 350, 442, (443) 3	<b>CHE 443</b> (CHE 350, MATH 245) 3	<b>MASC 350L</b> CHEM 105aL or MASC 110L, PHYS 152L 3	<b>CHE 391</b> 2	<b>NANOTECH. ELECTIVE</b> 3
---	---	--	---	---------------------	--------------------------------

## FOURTH YEAR

### FALL SEMESTER

<b>GE D</b>  4	<b>CHE 444bL</b> CHE 350, CHE 443 3	<b>CHE 445</b> CHE 443, MATH 245 2	<b>CHE 485</b> CHE 442, 443 2	<b>CHE 405</b> MATH 245 <b>or ISE 460</b> <b>or BUAD 301</b> 3	<b>CHE 491</b> CHE 391 2
---	---	--	-------------------------------------	---	--------------------------------

### SPRING SEMESTER

<b>GEC</b> 4	<b>CHE 446</b> CHE 443, 445, MATH 245 2	<b>CHE 460L</b> CHE 120, (MATH 245) 3	<b>CHE 480</b> 3	<b>GE B</b> 4	<b>OPTIONAL ELECTIVE</b> 2
-----------------	---	---	---------------------	------------------	-------------------------------

### MATHEMATICS (16 UNITS)

**MATH 125:** Calculus I  
**MATH 126 or MATH 129:** Calculus II  
**MATH 226 or MATH 229:** Calculus III  
**MATH 245:** Mathematics of Phys. and Engr.

### PHYSICS (8 UNITS)

**PHYS 151L:** Mechanics and Thermodynamics  
**PHYS 152L:** Electricity and Magnetism

### CHEMISTRY (24 UNITS)

**CHEM 105AL:** General Chemistry  
**CHEM 105BL:** General Chemistry  
**CHEM 300L:** Analytical Chemistry  
**CHEM 322AL:** Organic Chemistry  
**CHEM 430:** Physical Chemistry:  
Thermodynamics & Kinetics  
**CHEM 453:** Advanced Inorganic Chemistry

### GENERAL EDUCATION (32 UNITS)

**GE A** The Arts (1 Course)  
**GE B** Humanistic Inquiry (2 Courses)  
**GE C** Social Analysis (2 Courses)  
**GE D** Life Sciences (1 Course)  
**GE E** Physical Sciences (1 Course)  
**GE F** Quantitative Reasoning (1 Course)  
**GE G, H** Global Perspectives (2 Courses)\*  
**GESM** General Education Seminar (1 Course)\*

### WRITING (7 UNITS)

**WRIT 150:** Writing and Critical Reasoning  
**WRIT 340:** Advanced Writing

### ENGINEERING (54 UNITS)

**CHE 120:** Intro. to Chemical Engineering  
**CHE 205:** Numerical Methods in Chemical Engineering  
**CHE 330:** Chemical Engr. Thermodynamics  
**CHE 350:** Intro. to Separation Processes  
**CHE 391:** Intro. to Nanotechnology Research  
**CHE 405:** Applications of Prob. & Stats. for ChE or **ISE 460:** Engineering Economy or **BUAD 301:** Technical Entrepreneurship  
**CHE 442:** Chemical Reactor Analysis  
**CHE 443:** Viscous Flows  
**CHE 444ABL:** Chemical Engineering Lab  
**CHE 445:** Heat Transfer in ChE Processes  
**CHE 446:** Mass Transfer in ChE Processes  
**CHE 460L:** Chemical Process Dynamics & Control  
**CHE 480:** Chem. Process and Plant Design  
**CHE 485:** Comp.-Aided Chemical Process Design  
**CHE 487:** Nanotech and Nanoscale Engineering  
**CHE 491:** Nanotech Research for Undergrads  
**ENGR 102:** Engineering Freshman Academy

**MASC 350L:** Design, Synthesis and Processing of Engineering Materials  
**NANOTECH. ELECTIVE**

### \* SPECIAL NOTES



Courses with this symbol may be satisfied with AP, IB or A-Level exams. See page 17 for more information.

**GE:** Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by exam. Additionally, your GESM course should be taken in categories A, B, C, or D only. See pp. 16-17 for more information and consult your advisor for detailed assistance.

**OPTIONAL ELECTIVES:** Consult with your academic advisor to explore optional elective courses. These courses are not required.

**NANOTECH. ELECTIVE:** EE/MASC 438L, CHE 489, or CHE/PTE 463L.

**CHE 391, 491:** Technical electives may be taken in place of these courses. Contact the department for approved courses.