



FIRST YEAR

FALL SEMESTER

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|---|----------------------|--|--|----------------------|
| GE A  4 | WRIT 150 4 | MATH 125 (GE F)  4 | CHEM 105aL (GE E)  4 | ENGR 102 2 |
|---|----------------------|--|--|----------------------|

SPRING SEMESTER

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|---|---------------------------------|---|--------------------------------------|--|
| CHE 120 (MATH 125, CHEM 105aL) 3 | CHE 205 MATH 125 3 | MATH 126 or MATH 129 MATH 125  4 | CHEM 105bL CHEM 105aL 4 | PHYS 151L (GE E) MATH 125 or 126 or 226 4 |
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SECOND YEAR

FALL SEMESTER

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

SPRING SEMESTER

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| GE B 4 | CHEM 322aL CHEM 105bL 4 | MATH 245 MATH 226 or MATH 229 4 | CHE 350 CHEM 105bL 3 | WRIT 340 WRIT 150 3 |
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THIRD YEAR

FALL SEMESTER

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| GE C 4 | CHEM 430 CHEM 300L or 322aL, MATH 226, PHYS 151L 4 | CHE 442 MATH 245 3 | CHE 450 3 | OPTIONAL ELECTIVE 4 |
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SPRING SEMESTER

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| CHEM TECH. ELECTIVE 4 | CHE 444aL (CHE 330, 350, 442, (443)) 3 | CHE 443 (CHE 350, MATH 245) 3 | CHE 476 CHEM 322a or MASC 350L CHEM 105aL or MASC 110L, PHYS 152L 3 | SUSTAINABLE ENERGY ELECTIVE 3 | OPTIONAL ELECTIVE 2 |
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FOURTH YEAR

FALL SEMESTER

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| GE D  4 | CHE 444bL CHE 350, CHE 443 3 | CHE 445 CHE 443, MATH 245 2 | CHE 485 CHE 442, 443 3 | CHE 405 MATH 245 or ISE 460 or *BUAD 301 3 | OPTIONAL ELECTIVE 3 |
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SPRING SEMESTER

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|------------------|---|---|---------------------|------------------|-------------------------------|
| GE C 4 | CHE 446 CHE 443, 445, MATH 245 2 | CHE 460L CHE 120, (MATH 245) 3 | CHE 480 3 | GE B 4 | OPTIONAL ELECTIVE 2 |
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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
Chemistry Technical Electives:
CHEM 322BL: Organic Chemistry or **CHEM 431:** Physical Chemistry: Quantum Mechanics
or **CHEM 453:** Advance 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 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 450: Sustainable Energy
CHE 460L: Chemical Process Dynamics & Control
CHE 476: Chem. Engineering Materials or **MASC 350L:** Nanostructured Materials: Design, Synthesis and Processing
CHE 480: Chem. Process and Plant Design

CHE 485: Comp.-Aided Chemical Process Design
ENGR 102: Engineering Freshman Academy

* 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.

SUSTAINABLE ENERGY ELECTIVE (3): Biofuel (CHE 301 or CHEM 488 or CHE 489); Solar (CHE 487 or EE 513); Geothermal (PTE 463L)

*Must have 49 engineering units to be able to take BUAD 301.