

Bachelor of Science in **Chemistry (Chemical Nanoscience)**

PLEASE NOTE: This is a SAMPLE course plan only. Please meet with your advisor to ensure completion of all requirements

Freshman		
<i>Fall</i>	<i>Spring</i>	<i>Units</i>
CHEM I07L or CHEM I05aL or CHEM I15aL (GE-E) 4 units	CHEM I08L or I05bL or CHEM I15bL 4 units	4
MATH I25 (GE-F) 4 units	MATH I26 4 units	4
WRIT-150 4 units	GSEM I10, I20, I30, or I40 4 units	4
Foreign Language I 4 units	Foreign Language II 4 units	4
CHEM 294 (Optional)	CHEM 294 (Optional)	I-2

Sophomore		
<i>Fall</i>	<i>Spring</i>	<i>Units</i>
CHEM 325aL 4 units	CHEM 325bL 4 units	4
MATH 225 or MATH 226 4 units	PHYS I52L 4 units	4
PHYS I51L 4 units	GE-A, B, C, D, G, or H 4 units	4
Foreign Language III 4 units	GE-A, B, C, D, G, or H 4 units	4
Elective (Optional)	Elective (Optional)	2

Junior		
<i>Fall</i>	<i>Spring</i>	<i>Units</i>
CHEM 300L 4 units	CHEM 455 (sp) 4 units	4
CHEM 350 (fa) (GE-D) 4 units	CHEM 453 (sp) 4 units	4
PHYS I53L 4 units	CHEM 463L (sp) 2 units	4-2
WRIT 340 4 units	GE-A, B, C, D, G, or H 4 units	4
Elective (Optional)	GE-A, B, C, D, G, or H 4 units	4

Senior		
<i>Fall</i>	<i>Spring</i>	<i>Units</i>
CHEM 430 (fa) 4 units	CHEM 43I (sp) 4 units	4
CHEM 490 4 units	CHEM 332L (sp) 4 units	4
Chemical Nanoscience Elective* 3 units	Chemical Nanoscience Elective* 2 units	3-2
GE-A, B, C, D, G, or H 4 units	GE-A, B, C, D, G, or H 4 units	4
Elective (Optional)	GE-A, B, C, D, G, or H 4 units	4

*Two courses of Chemical Nanoscience Electives (5-6 units) from: CHE 487 (3 units, fa), CHEM 499 (2 units, sp), CHEM 588 (2 units, sp) or CHEM 561 (4 units, sp).

-A regular full-load is 16 units; 2 unit electives in addition to these 16 units are optional.

-The GESM and GE requirements can be fulfilled in 6 courses if the courses that double count are selected.

B.S. degree in Chemistry (Chemical Nanoscience): Key Courses

Required Core courses, Lower division		Units
CHEM 107L /108L	General Chemistry for Chemistry Majors, or	4-4
CHEM 105abL	General Chemistry, or	4-4
CHEM 115abL	Advanced General Chemistry	4-4
MATH 125	Calculus I	4
MATH 126	Calculus II	4
MATH 225	Linear Algebra and Linear Differential Equations, or	4
MATH 226	Calculus III	4
PHYS 151L	Fundamentals of Physics I: Mechanics and Thermodynamics	4
PHYS 152L	Fundamentals of Physics II: Electricity and Magnetism	4
PHYS 153L	Fundamentals of Physics III: Optics and Modern Physics	4

Required Core courses, Upper division		Units
CHEM 300L	Analytical Chemistry	4
CHEM 325abL	Organic Chemistry	4-4
CHEM 332L	Physical Chemistry Measurements	4
CHEM 350	Molecular Principles of Biochemistry	4
CHEM 430	Physical Chemistry: Thermodynamics and Kinetics	4
CHEM 431	Physical Chemistry: Quantum Mechanics	4
CHEM 453	Advanced Inorganic Chemistry	4
CHEM 455	Chemical Nanotechnology	4
CHEM 463L	Chemical Nanotechnology Laboratory, or	2
CHEM 490x	Directed Research	4

Chemical Nanoscience Electives, Two Courses From Among (5 or 6 units):		Units
CHE 487	Nanotechnology and Nanoscale Engineering through Chemical Processes	3
CHEM 488	Introduction to Theory and Practice of X-ray Crystallography	4
CHEM 499	Special Topics	2
CHEM 588	X-ray Crystallography	2
CHEM 561	Polymer Synthesis	4