

BS DEGREE in CHEMISTRY

REQUIRED CHEMISTRY & CORE COURSES		Year	SEM	CR	GR	Pts	TOT P
GENERAL Chemistry I CHEM 131 OR AP Equivalent (4-5 credits)							
CHEM 131: Chemical Concepts I (5) or AP/Equiv		Fall				0.0	0.0
ORGANIC Chemistry: FIRST-YEAR ORGANIC OR STANDARD Sequence (11-16 credits)							
FIRST-YEAR ORGANIC Sequence							
CHEM 171: First-Year Organic Chemistry I (4)		Fall				0.0	0.0
CHEM 173: First-Year Organic Chemistry I LAB (1)		Fall				0.0	0.0
CHEM 172: First-Year Organic Chemistry II (4)		Spring				0.0	0.0
CHEM 210/210W: Honors Organic Chemistry LAB II (2)		Spring				0.0	0.0
OR STANDARD Sequence							
CHEM 132: Chemical Concepts II (5)		Spring				0.0	0.0
CHEM 203: Organic Chemistry I (4)		Fall				0.0	0.0
CHEM 207: Organic Chemistry I LAB (1)		Fall				0.0	0.0
CHEM 204: Organic Chemistry II (4)		Spring				0.0	0.0
CHEM 210/210W: Hrs Org Chem Lab (2)		Spring				0.0	0.0
ALL of the following THEORY courses (16 credits)							
CHEM 211: Inorganic Chemistry (4)		Fall				0.0	0.0
CHEM 251: Physical Chemistry I (4)		Fall				0.0	0.0
CHEM 252: Physical Chemistry II (4)		Spring				0.0	0.0
CHEM 262: Biological Chemistry or BIOL 250: Biochemistry (choose) (4)		Spring				0.0	0.0
Both (2) of the following LAB courses (8 credits) - May be taken as W for ULW							
CHEM 231W: Chemical Instrumentation (4)		Fall				0.0	0.0
CHEM 234 or 234W: Advanced Laboratory Techniques (choose) (4)		Spring				0.0	0.0
+ One (1) of the following LAB courses (4 credits) - May be taken as W for ULW							
CHEM 232 or 232W: Molecular Spectroscopy (choose) (4)		Spring				0.0	0.0
CHEM 244(W) or PHYS 245(W) ANSEL Lab (4)		Spring				0.0	0.0
CHEM 231/232/ 244 Alternative (approval required) (4)						0.0	0.0
One (1) additional 400-level CHEM Course (4 credits)							
CHEM 4XX (4)						0.0	0.0
Two (2) semesters of Senior Research & Thesis (8 credits)							
CHEM 393: Senior Research w/		Fall				0.0	0.0
CHEM 393: Senior Research w/		Spring				0.0	0.0
Optional Additional CHEM courses (NOT Required but will count in CHEM GPA)							
						0.0	0.0
						0.0	0.0
						0.0	0.0
						0.0	0.0
:AP/Transferred Chem Credits	CHEM Credits:	0.0				0.0	0.0

0.0 Total Chem Cr.

Student: _____ Date: _____
 Class & ID#: _____ Other Major?: _____
 Email: _____ CHM GPA: _____ #DIV/0!
 AC Advisor: _____ General GPA: _____

REQUIRED ANCILLARY & ALLIED COURSES		Year	SEM	CR	GR
MATHEMATICS - 140 OR 160 Sequence (8-12 credits)					
140 Sequence					
MATH 141: Calculus I (4)					
MATH 142: Calculus II (4)					
MATH 143: Calculus III (4)					
OR 160 Sequence					
MATH 161: Calculus IA (4)					
MATH 162: Calculus IIA (4)					
+ One (1) of the following courses (4 credits):					
MATH 163: Ordinary Differential Eq (4)					
MATH 165: Linear Algebra w/ Differential Equations (4)					
+ One (1) of the following courses (4 credits):					
MATH 2XX 200-Level MATH (4)					
MATH 164: Multivariable Calculus (4)					
CSC 161: Intro to Programming (4)					
CSC 171: Intro to Computer Science (4)					
STAT 201: Intro to Probability (4)					
STAT 180: Intro to Applied Statistical Methodology (formerly STAT 211) (4)					
STAT 190: Intro to Statistical Methodology (formerly STAT 212) (4)					
PHYSICS - Two (2) of the following PHYSICS courses (8 credits)					
PHYS 113: General Physics I (4)					
PHYS 114: General Physics II (4)					
PHYS 121: Mechanics (4)					
PHYS 122: Electricity & Magnetism (4)					
PHYS 123: Waves & Modern Physics (4)					
PHYS 141: Mechanics (honors) (4)					
PHYS 142: Electricity & Magnetism (honors) (4)					
Primary Writing Requirement (WRT 105 or Equivalent)					
WRTG 105 OR Equiv:					
Upper-Level Writing Requirement Satisfaction					
CHEM ULW (choose) (4)					
XXX 2XXW 2nd ULW (4)					

Any CHEM labs taken as a W can be carried down to this area to meet this requirement.
 Do not duplicate credits. Students may use one writing course from another department.

P = Planned IP = In Progress X = Complete ✓ = Section Requirements Met

Bachelor of Science (B.S.) Program in Chemistry

The B.S. program is designed primarily for students who anticipate professional careers in Chemistry and related science. The program provides the range of knowledge, skills, and experience required for work as a professional chemist or for entry into graduate studies in chemistry. The fundamental work is completed by the end of the third year, leaving the senior year free for graduate-level coursework and a full year of independent research with one of the department faculty. The B.S. program that includes a biochemistry course meets all of the requirements for an American Chemical Society approved degree. For more information, please contact our Undergraduate Studies Coordinator at: ugradadm@chem.rochester.edu.

Blank POS Worksheet			
Plan Your Own POS for CHEM BS			
Total: at least 55 credit-hours in chemistry, and at least 85 credit-hours overall			
Year 1/First Year			
Fall	Cr	Spring	Cr
Year 2/Sophomore Year			
Fall	Cr	Spring	Cr
Year 3/Junior Year			
Fall	Cr	Spring	Cr
Year 4/Senior Year			
Fall	Cr	Spring	Cr
Year 5/for Take 5 Students			
Fall	Cr	Spring	Cr
AP Credit/Transfer Credit/Summer Credit			
Class	Cr	Class	Cr

Sample Program Of Studies			
While the required courses leading to a B.S. in chemistry may be scheduled with some flexibility (e.g., the mathematics and physics courses), one of the following programs are suggested:			
SAMPLE Regular Sequence POS			
Year 1/First Year			
Fall	Cr	Spring	Cr
CHEM 131	5	CHEM 132	5
MATH 161	4	MATH 162	4
Elective	4	PHYS 121	4
Elective	4	Elective	4
Year 2/Sophomore Year			
Fall	Cr	Spring	Cr
CHEM 203	4	CHEM 204	4
CHEM 207	1	CHEM 210W	2
MATH 163/MATH 165	4	MATH/CSC/STAT	4
PHYS 113/PHYS 122	4	PHYS 114	4
Elective	4	Elective	4
Year 3/Junior Year			
Fall	Cr	Spring	Cr
CHEM 211	4	CHEM 232	4
CHEM 231	4	CHEM 252	4
CHEM 251	4	Elective	4
Elective	4	Elective	4
Year 4/Senior Year			
Fall	Cr	Spring	Cr
CHEM 393	4	CHEM 393	4
400-Level CHEM	4	CHEM 234/CHEM 244W	4
Elective	4	CHEM 262/BIOL 250	4
Elective	4	Elective	4
SAMPLE First-Year Organic Sequence POS			
Year 1/First Year			
Fall	Cr	Spring	Cr
CHEM 171	4	CHEM 172	4
CHEM 173	1	CHEM 210W	2
MATH 161	4	MATH 162	4
Elective	4	PHYS 121	4
Elective	4	Elective	4
Year 2/Sophomore Year			
Fall	Cr	Spring	Cr
CHEM 211/CHEM 132	4	CHEM 234/244W	4
PHYS 113/122	4	PHYS 114	4
MATH 163/165	4	MATH/CSC/STAT	4
Elective	4	Elective	4
Year 3/Junior Year			
Fall	Cr	Spring	Cr
CHEM 231	4	CHEM 232	4
CHEM 251	4	CHEM 252	4
Elective	4	Elective	4
Elective	4	Elective	4
Year 4/Senior Year			
	Cr		Cr
CHEM 393	4	CHEM 393	4
400-level CHEM	4	CHEM 262/BIOL 250	4
Elective	4	Elective	4
Elective	4	Elective	4

Notes:

- Total at least 55 credit-hours in chemistry and at least 85 credit-hours overall.
- The First-year Organic sequence is designed for first-year students with good preparation in chemistry (e.g., two years of general chemistry and an Advanced Placement score 4 or 5, or equivalent preparation). This sequence fast tracks students to more advanced chemistry courses and the fulfillment of degree requirements in other disciplines.
- CHEM 231, 232, or 244 may be replaced by an upper-level laboratory course from another department that maintains curricular coverage in the areas of analytical, physical and macromolecular/nanoscale chemistry required by the American Chemical Society.
- BS students must prepare a senior research thesis, and have the thesis read and approved by the research advisor and a second faculty member in Chemistry.
- At least four credits of a 400-level chemistry course may be taken any time during the junior or senior year.
- It is recommended for students to take the PHYS 121-123 series. The sequence begins in the Spring with PHYS 121.
- Students should speak with a chemistry advisor to tailor their programs specifically to their career goals. Particular electives that are not included in the chemistry curriculum may be required for some graduate programs.
- Students who are interested in pursuing a double major or double degree, are advised to consult the school website which outlines the course overlap rules and additional credit requirements.