

# BS DEGREE in CHEMISTRY

REQUIRED CHEMISTRY & CORE COURSES	Year	SEM	Crs	Gr	Pts	TOT P	
<b>GENERAL Chemistry I CHM 131 OR AP Equivalent (4-5 credits)</b>							
CHM 131 Chem Concepts I (5) OR AP/Equiv		Fall			0.0	0.0	
<b>ORGANIC &amp; Gen Chem II: FRESHMEN ORGANIC OR STANDARD Sequence (11-16 cr)</b>							
<b>FRESHMAN ORGANIC Sequence</b>							
CHM 171 Org Chem I (4)		Fall			0.0	0.0	
CHM 173 Org Chem I LAB (1)		Fall			0.0	0.0	
CHM 172 Org Chem II (4)		Spring			0.0	0.0	
CHM 210 or 210W Org Lab II (choose) (2)		Spring			0.0	0.0	
<b>OR STANDARD Sequence</b>							
CHM 132 Chem Concepts II (5)		Spring			0.0	0.0	
CHM 203 Org Chem I (4)		Fall			0.0	0.0	
CHM 207 Org Lab I (1)		Fall			0.0	0.0	
CHM 204 Organic Chem II (4)		Spring			0.0	0.0	
CHM 210W Org Chm II Lab (2)		Spring			0.0	0.0	
<b>ALL of the following THEORY courses (16 credits)</b>							
CHM 211 Inorganic Chem (4)		Fall			0.0	0.0	
CHM 251 Physical Chem I (4)		Fall			0.0	0.0	
CHM 252 Physical Chem II (4)		Spring			0.0	0.0	
CHM262 or BIO250 BioChem (choose) (4)		Spring			0.0	0.0	
<b>Both (2) of the following LAB courses (8 credits) - May be taken as W for ULW</b>							
CHM 231W ChemI Instrumt (4)		Fall			0.0	0.0	
CHM 232 or 232W Molclr Sp (choose) (4)		Spring			0.0	0.0	
<b>+ One (1) of the following LAB courses (4 credits) - May be taken as W for ULW</b>							
CHM 234 or 234W Adv Lab T (choose) (4)		Spring			0.0	0.0	
CHM244(W) or PHY245(W) ANSEL Lab (4)		Spring			0.0	0.0	
CHM 234 Alternative (choose one) (4)					0.0	0.0	
<b>One (1) additional 400 LEVEL CHM course (4 credits)</b>							
CHM 435 400-Level Chemistry (4)		Fall			0.0	0.0	
<b>Two (2) semesters of Senior Research &amp; Thesis (8 credits)</b>							
CHM 393 Sr. Research w/:		Fall			0.0	0.0	
CHM 393 Sr. Research w/:		Spring			0.0	0.0	
<b>Optional Additl CHM courses (NOT Required but will count in CHM GPA)</b>							
					0.0	0.0	
					0.0	0.0	
					0.0	0.0	
					0.0	0.0	
:AP/Transferred Chem Credits					ChmCr(GPA): 0	0.0	0.0

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0.0 Total Chem Cr.

Student: \_\_\_\_\_ DATE: \_\_\_\_\_  
 Class & ID#: \_\_\_\_\_ Other Major? \_\_\_\_\_  
 Email: \_\_\_\_\_ CHM GPA: \_\_\_\_\_  
 Ac Advisor: \_\_\_\_\_ General GPA: \_\_\_\_\_

REQUIRED ANCILLARY & ALLIED COURSES	Year	SEM	Crs	Gr
<b>MATHEMATICS - 140 OR 160 Sequence (8-12 credits)</b>				
<b>140 Sequence</b>				
MTH 141 Calculus I (4)				
MTH 142 Calculus II (4)				
MTH 143 Calculus III (4)				
<b>OR 160 Sequence</b>				
MTH 161 Calculus IA (4)				
MTH 162 Calculus IIA (4)				
<b>+ One (1) of the following courses (4 credits):</b>				
MTH 163 Ordinary Differential Eq (4)				
MTH 165 Linear Alg & Diffntl Eq (4)				
<b>+ One (1) of the following courses (4 credits):</b>				
MTH 164 (Multidim Calculus) (4)				
MTH 2XX 200-Level MTH (4)				
CSC 161 Intro to Programming (4)				
CSC 171 Intro to Computer Science (4)				
STT 201 Intro to Probability (4)				
STT 211 Apld STT for Social Sci I (4)				
STT 212 Apld STT BIO PHY SCI I (4)				
<b>PHYSICS - Two (2) of the following PHYSICS courses (8 cr)</b>				
PHY 113 General Physics I (4)				
PHY 114 General Physics II (4)				
PHY 121 Mechanics (4)				
PHY 122 Elec & Magnetism (4)				
PHY 123 Waves & Modern PHY (4)				
PHY 141 Mechanics *Hnrs (4)				
PHY 142 Elec & Magnetism *Hnrs(4)				
PHY 143 Waves & Modern PHY *Hnrs(4)				
<b>Primary Writing Requirement (WRT 105 OR Equivalent)</b>				
WRT 105 OR Equiv: _____				
<b>Upper-Level Writing Requirement Satisfaction</b>				
CHM ULW COURSE (choose one)				
XXX XXXW 2nd ULW (4)				

Any CHM 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](mailto:ugradadm@chem.rochester.edu).

### Blank POS Worksheet

#### Plan Your Own POS for CHM BS

Total: at least 61 credit-hours in chemistry,  
and at least 85 credit-hours overall

Year 1 / Freshman 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 Credits			
	Cr		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 / Freshman Year			
Fall	Cr	Spring	Cr
CHM 131	5	CHM 132	5
MTH 161	4	MTH 162	4
Elective		PHY 121	4
Elective		Elective	
Year 2 / Sophomore Year			
Fall	Cr	Spring	Cr
CHM 203	4	CHM 204	4
CHM 207	1	CHM 210W	2
MTH 163/165	4	MTH/CSC/STT	4
PHY 122/113	4	PHY 123/114	4
Elective		Elective	
Year 3 / Junior Year			
Fall	Cr	Spring	Cr
CHM 211	4	CHM 232	4
CHM 231	4	CHM 234 (or 244W)	4
CHM 251	4	CHM 252	4
Elective		Elective	
Year 4 / Senior Year			
Fall	Cr	Spring	Cr
CHM 393	4	CHM 393 (2nd semester)	4
CHM 400 Level	4	CHM 262 or BIO 250	4
Elective		Elective	
Elective		Elective	

#### SAMPLE Freshman Organic Sequence\* POS

Year 1 / Freshman Year			
Fall	Cr	Spring	Cr
CHM 171	4	CHM 172	4
CHM173	1	CHM 210W	2
MTH 161	4	MTH 162	4
Elective	4	PHY 121	4
Elective	4	Elective	4
Year 2 / Sophomore Year			
Fall	Cr	Spring	Cr
CHM 211 (or 132)	4	CHM 234 (or 244W)	4
PHY 122/113	4	PHY 123/114	4
MTH 163 (or MTH 165)	4	MTH/CSC/STT	4
Elective	4	Elective	4
Year 3 / Junior Year			
Fall	Cr	Spring	Cr
CHM 231	4	CHM 232	4
CHM 251	4	CHM 252	4
Elective		Elective	
Elective		Elective	
Year 4 / Senior Year			
Fall	Cr	Spring	Cr
CHM 393	4	CHM 393 (2nd semester)	4
CHM 400 Level	4	CHM 262 or BIO 250	4
Elective		Elective	
Elective		Elective	

**Notes:**

- Total: at least 55 credit-hours in chemistry and at least 85 credit-hours overall
- The Freshman 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.
- CHM 234 may be replaced by CHM 244W (ANSEL) or an Approved Laboratory Course in another science department, listed at: <http://www.chem.rochester.edu/undergrad/200lvl.php>.
- BS Students must prepare a senior research thesis, and have the thesis read and approved by the research adviser and a second faculty member in Chemistry.
- At least four credits of a 400-level chemistry course may be taken anytime during the junior or senior year.
- It is recommended for students to take the PHY 121 - 123 series. The sequence begins in the spring with PHY 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 College website which outlines the course overlap rules and additional credit requirements.

7/2013