

# CHEMISTRY MAJOR COURSE OUTLINE

## General Chemistry

FALL		SPRING	
CHEM 125 – General Chemistry I CHEM 135 – General Chemistry Lab I		CHEM 126 – General Chemistry II CHEM 136 – General Chemistry Lab II	
OR			
CHEM 140 – Advanced General Chemistry (includes lab)			

## Physics

PHYS 145 – General Physics I, with applications...	OR	PHYS 155 – General Physics I
PHYS 156 – General Physics II	OR	PHYS 146 – General Physics II, with applications...

## Mathematics

MATH 125 – Calculus I	OR	MATH 125 – Calculus I
MATH 126 – Calculus II	OR	MATH 126 – Calculus II
MATH 225 – Calculus III	OR	MATH 225 – Calculus III

## Organic Chemistry

CHEM 245 – Organic Chemistry I CHEM 251 – Organic Laboratory Techniques I	OR	CHEM 245 – Organic Chemistry I CHEM 251 – Organic Laboratory Techniques I
CHEM 246 – Organic Chemistry II CHEM 252 – Organic Laboratory Techniques II	OR	CHEM 246 – Organic Chemistry II CHEM 252 – Organic Laboratory Techniques II

## Physical Chemistry

CHEM 345 – Physical Chemistry I	CHEM 346 – Physical Chemistry II CHEM 352 – Physical Chemistry Lab
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## Analytical Chemistry

CHEM 310 – Quantitative Analysis and Chemical Equilibrium	CHEM 320 – Instrumental Methods of Analysis
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## Inorganic Chemistry

CHEM 360 – Inorganic Chemistry	
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## Advanced Lab

CHEM 370 – Advanced Methods	OR	CHEM 370 – Advanced Methods
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**Seminar\* (at least 1 credits before final semester) \*may be taken multiple times for credit**

FALL		AND OR	SPRING	
CHEM 401 – Chemistry Seminar			CHEM 402 – Chemistry Seminar	

## Research (at least 2 credits)

CHEM 490 – Research OR CHEM 498 – Honors Research		AND OR	CHEM 490 – Research OR CHEM 498 – Honors Research	
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## ACS CERTIFICATION\*

BBMB 325 – Biochemistry	OR	BBMB 325 – Biochemistry
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(Note BIOL 111 is a pre-requisite – ~1 section a semester)

*\*In addition to the major requirements, you must have an additional 78 hours of chemistry lab. This is fulfilled with 2 credits of lab-based research (CHEM 390/490/498) or electives totaling 2 labs a week (ex. CHEM 390 AND CHEM 388).*

## ELECTIVES\*

CHEM 390 – Student Research CHEM 401 – Chemistry Seminar CHEM 388 – Environmental Chemistry and Engineering (L) CHEM 425 – Computational Biochemistry CHEM 456 – Advanced Organic Synthesis CHEM 447 – Physical Organic Chemistry CHEM 451 – Independent Study	CHEM 390 – Student Research CHEM 402 – Chemistry Seminar CHEM 305 – Water Chemistry CHEM 411 – The Organic Chemistry of Drug Design CHEM 460 – Bioinorganic Chemistry CHEM 452 – Independent Study
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\*All electives are not offered every year. Inquire with the instructor about future offerings. The list represents the most likely offerings and is subject to change. (L) = includes lab component

## DISTRIBUTION

0. Encounters (two semesters) <ul style="list-style-type: none"> <li>1a. (pre Fall 2011) 2 courses (min. 6 credits) in <b>alternate voices</b></li> <li>1b. (post Fall 2011) 2 courses (min. 6 credits) in <b>cultural pluralism</b></li> </ul> 2. Minimum 6 credits in <b>fine arts</b> (music, art, dance, film and media, theater, some English, etc.) <ul style="list-style-type: none"> <li>3. Minimum 6 credits in <b>humanities</b> (languages, literature, religion, philosophy, etc.)</li> <li>4. Minimum 6 credits in <b>social sciences</b> (anthro, econ, politics, psych, etc.)</li> <li>5. Minimum 6 credits in <b>sciences</b> (non-issue for science majors)</li> <li>6. Minimum 3 credits in <b>quantitative</b> (non-issue for science majors)</li> </ul>
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