

CHEMISTRY-BA OR BS-SECONDARY EDUCATION

WITH EDUCATION MAJOR & TEACHABLE MINOR REQUIRED

THIS IS A **GENERAL** CURRICULUM GUIDE AND IS NOT APPLICABLE TO EVERY STUDENT. IT IS IMPORTANT TO MEET WITH YOUR ADVISOR.

A 2.7 cumulative GPA in the Chemistry major is required for admission to the College of Education

Year One			
CHM 115 Principles of Chemistry I Prerequisites: High school chemistry and (MTH 110 or MTH 122 or MTH 125 or MTH 201)	5	CHM 116 Principles of Chemistry II Prerequisites: CHM 115 and (MTH 122 or MTH 125 or MTH 201)	5
MTH 122 College Algebra Prerequisite: MTH 110 or proficiency through math placement	3	MTH 123 Trigonometry Prerequisite: MTH 122 or proficiency through math placement (MTH 122 may be taken concurrently)	3
WRT 150 Strategies in Writing	4	BIO 120 General Biology I	4
PSY 101 Introductory Psychology	3	Prerequisites: High school chemistry, CHM 109, or CHM 115 strongly recommended (CHM 109 or 115 may be taken concurrently)	
		Gen Ed	3
Total	15	Total	15
Spring/Summer			
BIO 121 General Biology II Prerequisite: BIO 120	4	⁴ Minor Course	3
Year Two			
CHM 222 Quantitative Analysis Prerequisites: CHM 116; Corequisite: CHM 241 or CHM 245	3	CHM 225 Instrumental Analysis I Prerequisite: CHM 222	3
¹ CHM 245 Principles of Organic Chemistry I	3	¹ CHM 247 Principles of Organic Chemistry II	3
CHM 246 Principles of Organic Chemistry I Lab Prerequisites: CHM 116; CHM 245 and 246 must be taken concurrently	1	CHM 248 Principles of Organic Chemistry II Lab Prerequisites: CHM 245 and CHM 246; CHM 247 and 248 must be taken concurrently	1
MTH 201 Calculus I Prerequisites: MTH 122 and MTH 123 or proficiency through math placement	4	PSY 301 Child Development Prerequisites: PSY 101	3
EDF 315 Diverse Perspectives on Education	3	⁴ Minor Course	3
		Gen Ed	3
Total	14	Total	16*
Year Three			
⁶ PHY 220 General Physics I Prerequisites: MTH 122 and MTH 123	5	² CHM 391 Chemistry Seminar I	1
² CHM 391 Chemistry Seminar I	0	⁶ PHY 221 General Physics II Prerequisite: PHY 220	5
EDI 337 Introduction to Learning and Assessment	3	⁴ Minor Course	3
GEO 111 Exploring the Earth	4	Gen Ed	3
Gen Ed	3	Issue/Theme	3
Total	15	Total	15
Year Four			
CHM 351 Introduction to Physical Chemistry Prerequisites: CHM 116, MTH 201, & PHY 220 (may be taken concurrently)	3	² CHM 491 Chemistry Seminar II	1
CHM 232 Biological Chemistry Prerequisite: CHM 231	4	³ CHM 352 SWS Applied Physical Chemistry Prerequisites: CHM 116, MTH 201, CHM 351 and PHY 220 (may be taken concurrently)	1
OR CHM 461 Biochemistry I Prerequisites: CHM 242, CHM 247 or CHM 248	4	CHM 419 Chemistry in Secondary Education (Capstone) Prerequisites: Chemistry major or minor, teaching certification candidate, and 18 credits in chemistry	3
² CHM 491 Chemistry Seminar II	0	Issue/Theme	3
Gen Ed	3	⁴ Minor Course	3
⁴ Minor Course	3	⁴ Minor Course	3
⁴ Minor Course	3	⁴ Minor Course	3
Total	16*	Total	16*
Year Five			
Teacher Assisting		Student Teaching	
EDI 331 Methods and Strategies of Secondary Teaching	5	EDI 431 Student Teaching: Secondary	8
EDF 310 Organizing and Managing Classroom Environments	3	EDI 432 Student teaching: Secondary Content	2
EDR 321 Content Area Literacy	3	EDF 485 The Context of Educational Issues	3
⁵ EDS 379 Universal Design for Learning: Secondary	3	Must be taken with or after EDI 431	
EDT 370 Technology in Education Must be taken with or after EDI 331 but before EDI 431	3		
Total	17*	Total	13

See reverse for footnotes

*The block tuition rate is for 12-15 credits. You will pay additional tuition for any credits over 15.

It is imperative to meet with your faculty advisor and an advisor in the CLAS Academic Advising Center regularly.

The CLAS Academic Advising Center is located in C-1-140 MAK, 616-331-8585.

Online at: <http://www.gvsu.edu/clasadvising>

- ¹ CHM 241 and CHM 242 may substitute for CHM 245/246/247/248. Please speak with your faculty advisor about this option.
- ² Required of all chemistry majors. Two semesters of seminar are required for one credit. Students should register for zero credits in their first semester and one credit in their second semester.
- ³ Students must complete a total of two courses with an SWS attribute.
- ⁴ A teachable minor is required for students pursuing secondary teacher certification. See below for minor options.
- ⁵ Starting Fall 2013, EDS 379 may be taken prior to the Teacher Assisting Semester. Please consult with your College of Education Advisor to determine an appropriate time to take this course.
- ⁶ For students with the Advanced Waiver/Override for Mathematics based on ACT scores, it is **STRONGLY RECOMMENDED** that proficiency in MTH 123 – Trigonometry – be demonstrated by either taking the MTH 123 course or by achieving a passing score on the GVSU math placement test **PRIOR** to taking PHY 220 and 221.

Chemistry students can pursue a Bachelor of Arts or Bachelor of Science degree. Students who wish to obtain a BA must fulfill 3rd semester proficiency in a foreign language (201 level). The BS degree requirements are incorporated into the major requirements and include MTH 201, PHY 220, and PHY 221.

Declaring the Chemistry and Education Major with Teachable Minor:

1. Log into myBanner from the GVSU homepage
2. Once logged in select "Student," "Student Records," and then "Change Major"
3. Click on the "Change Major 1/Program" box
4. Click on the down arrow in the box next to "New Major 1/Program," from here scroll down and choose "Chemistry Teaching – **BA (or) BS** Secondary Education"
5. Click "Submit" and then "Change to New Program"
6. Return to the Change Major Screen and select "Add or Change Second Major"
7. Click on the down arrow in the box next to "New Major 2," from here, scroll down and choose "Education" from the list and then click "Submit" and "Add Second Major"
8. Return to Change Major Screen and select "Add a Minor" or "Add or Delete Minor", scroll to and select chosen minor and then click "Submit" and "Add Minor"

General Education Overlap

General Education Categories fulfilled by the Chemistry Major for Secondary Education:	
Mathematical Sciences: MTH 201	Physical Science with Lab: CHM 115
Social and Behavioral Sciences: PSY 101	Life Science with Lab: BIO 120
U.S. Diversity: EDF 315	

Teachable Majors and Teachable Minors for Secondary Education

Teachable Majors		Teachable Minors	
Biology	Mathematics	Biology-Teaching	History-Teaching
Chemistry	Music (K-12)	Chemistry-Teaching	Mathematics-Secondary Education
Earth/Space Science	Physical Education (K-12)	Computer Science-Teaching	Physical Education-Teaching
English	Physics	Earth/Space Science-Teaching	Physics-Teaching
French	Social Studies	Economics-Teaching	Political Science-Teaching
German	Spanish	English-Teaching	Psychology-Teaching
History	Visual Arts (K-12)	French-Teaching	School Health Education
Latin		Geography-Teaching	Spanish-Teaching
		German-Teaching	

Second Major in Education

Education Major Prerequisites (9 credits)

A 2.7 cumulative GPA in the Education Major Prerequisites is required with no grade lower than a C

— EDF 315 Diverse Perspectives on Education (3)	— PSY 301 Child Development (3)
— EDI 337 Introduction to Learning and Assessment (3)	Prerequisite: PSY 101
Teacher Assisting (14 - 17 credits)	Student Teaching (13 credits)
— EDI 331 Teacher Assisting-Secondary (5)	— EDI 431 Student Teaching, Secondary (8)
— EDF 310 Organizing and Managing Classroom Environments (3)	— EDI 432 Student Teaching, Secondary Content (2)
— EDR 321 Content Area Literacy (3)	— EDF 485 The Context of Educational Issues (3)
— EDT 370 Technology in Education (3)	Must be taken with or after EDI 431
Must be taken with or after EDI 331 but before EDI 431	
— EDS 379 Universal Design for Learning: Secondary (3)**	
** Starting Fall 2013, EDS 379 may be taken prior to the Teacher Assisting Semester. Please consult with your College of Education Advisor to determine an appropriate time to take this course.	

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