COLLEGE OF LIBERAL ARTS AND SCIENCES (CLAS) ACADEMIC ADVISING CENTER 2016-2017

CHEMISTRY BS-SECONDARY EDUCATION (WITH EDUCATION MAJOR AND TEACHABLE MINOR)

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	4	CHM 116 Principles of Chemistry II	5
Prerequisites: High school chemistry and (MTH 110 or MTH 122 or MTH 125 or MTH 201)		Prerequisites: CHM 115 and (MTH 122 or MTH 125 or MTH 201)	
MTH 122 College Algebra	3	MTH 123 Trigonometry	3
Prerequisite: MTH 110 or proficiency through math placement		Prerequisite: MTH 122 or proficiency through math placement (MTH 122 may be taken concurrently)	
Gen Ed or WRT 098 Writing with a Purpose[1]	3/4	BIO 120 General Biology I **or** BIO 121 General Biology II	4
PSY 101 Introductory Psychology	3	Prerequisites: BIO 120: High school chemistry, CHM 109, or CHM	
EDF 100 – Teaching and Learning in a Diverse Environment - **(optional)**	2	115 strongly recommended (CHM 109 or 115 may be taken concurrently) BIO 121: MTH 110 or higher (may be taken concurrently)	4
		WRT 150 Strategies in Writing[1]	
Total	*15/16**	*Total*	*16**
Spring/Summer			
BIO 120 General Biology I **or** BIO 121 General Biology II Prerequisites: BIO 120: High school chemistry, CHM 109, or CHM 115 strongly recommended (CHM 109 or 115 may be taken concurrently) BIO 121: MTH 110 or higher (may be taken concurrently)	4	[4]Minor Courses	6
Gen Ed	3		
Year Two			
CHM 273 Principles of Inorganic Chemistry	3	CHM 221 Survey of Analytical Chemistry	4
Prerequisites: CHM 116; Corequisite: CHM 241 or CHM 245		Prerequisites: CHM 116	
[2]CHM 245 Principles of Organic Chemistry I	4	[2]CHM 247 Principles of Organic Chemistry II	3
CHM 246 Principles of Organic Chemistry I Lab	1	CHM 248 Principles of Organic Chemistry II Lab	1
Prerequisites: CHM 116; CHM 245 and 246 must be taken concurrently		Prerequisites: CHM 245 and CHM 246; CHM 247 and 248 must be taken concurrently	
MTH 201 Calculus I	4		
Prerequisites: MTH 122 and MTH 123 or proficiency through math placement		PSY 301 Child Development	3
		Prerequisites: PSY 101	
EDF 315 Diverse Perspectives on Education	3	[4]Minor Course	3
Total	*15*	*Total*	*14*
Year Three			
[6]PHY 220 General Physics I	5	CHM 391 Chemistry Seminar	1
Prerequisites: MTH 122 and MTH 123		Prerequisites: 18 credits of chemistry and junior status	
EDI 337 Introduction to Learning and Assessment	3	[6]PHY 221 General Physics II	5
GEO 111 Exploring the Earth	4	Prerequisite: PHY 220	
Gen Ed	3	[4]Minor Course	3
		Gen Ed	3
		Issue	3
Total	*15*	*Total*	*15*
Year Four			
CHM 351 Introduction to Physical Chemistry	3	CHM 491 Chemistry Seminar II (Capstone)	1
Prerequisites: CHM 116, MTH 201, & PHY 220 (may be taken concurrently)		Prerequisites: CHM 391 and senior standing	1
CHM 461 Biochemistry I	4	[3]CHM 352 SWS Applied Physical Chemistry	
Prerequisites: CHM 242, CHM 247 or CHM 248		Prerequisites: CHM 116, MTH 201, CHM 351 and PHY 220 (may be	
Gen Ed	3	taken concurrently)	4
[4]Minor Course	3	CHM 419 Chemistry in Secondary Education (Capstone)	
[4]Minor Course	3	Prerequisites: Chemistry major or minor, teaching certification	
		candidate, and 18 credits in chemistry	3
		Issue	3
		[5]EDS 379 Universal Design for Learning: Secondary	
		Sophomore Standing, EDF 315, and EDI 337. B- or better required.	3
		[4]Minor Course	
Total	*16**	*Total*	*15*
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
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			
Total	*14*	*Total*	*13*

See reverse for footnotes

It is imperative to meet with your faculty advisor and an advisor in the CLAS Academic Advising Center regularly.
Academic Advisor: Nick Woodward, woodwani@gvsu.edu The CLAS Academic Advising Center is located in C-1-140 MAK, 616-331-8585.
Online at: http://www.gvsu.edu/clasadvising

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

[1] Students who self-place into WRT 098 should take this course in the fall semester and then take WRT 150 in the winter semester of their first year. Students who self-place into WRT 150 should normally take this course in the winter semester of their first year.
Students will not need to take WRT 150 if they have earned credit for the course through AP/Dual Enrollment. A grade of C or better is required in WRT 150 in order to satisfy the WRT 150 requirement at GVSU.

[2] CHM 241 and CHM 242 may substitute for CHM 245/246/247/248 with advisor approval. Please speak with your faculty advisor about this option.

[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] EDS 379 may be taken prior to the Teacher Assisting Semester but must be completed prior to Student Teaching. Permit required (COE – 616-331-6650).

[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.

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 - **BS** Secondary Education"
5. Click "Submit." The system will automatically declare your 2nd major in "Education" and give you the option to declare a minor. Choose an appropriate minor from the list and then click "Change to New Program"

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-Secondary 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) — **EDI 337 Introduction to Learning and Assessment** (3)	— **PSY 301 Child Development** (3) Prerequisite: PSY 101
Teacher Assisting (14 - 17 credits)	**Student Teaching (13 credits)**
— **EDI 331 Teacher Assisting-Secondary** (5) — **EDF 310 Organizing and Managing Classroom Environments** (3) — **EDR 321Content Area Literacy** (3) — **EDT 370 Technology in Education** (3) Must be taken with or after EDI 331 but before EDI 431 — **EDS 379 Universal Design for Learning: Secondary** (3)** EDS 379 may be taken prior to the Teacher Assisting semester but **must** be completed prior to Student Teaching	— **EDI 431 Student Teaching, Secondary** (8) — **EDI 432 Student Teaching, Secondary Content** (2) — **EDF 485 The Context of Educational Issues** (3) Must be taken with or after EDI 431

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