

CHEMISTRY-BA OR BS-ENVIRONMENTAL

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

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 125 or 201)	5
MTH 122 College Algebra Prerequisite: MTH 110 or assignment through Grand Valley math placement	3	⁹ MTH 123 Trigonometry Prerequisite: MTH 122 or assignment through Grand Valley math placement (MTH 122 may be taken concurrently)	3
WRT 150 Strategies in Writing	4	Gen Ed	3
¹ Track Course	3	Gen Ed	3
		² Elective	1
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>15</i>
Year Two			
CHM 222 Quantitative Analysis Prerequisite: CHM 116; Corequisite: CHM 241 or CHM 245	3	CHM 225 Instrumental Analysis I Prerequisite: CHM 222	3
³ CHM 245 Principles of Organic Chemistry I	3	³ CHM 247 Principles of Organic Chemistry II	3
CHM 246 Principles of Organic Chemistry I Lab Prerequisite: CHM 116; CHM 245 and 246 must be taken as corequisites	1	CHM 248 Principles of Organic Chemistry II Lab Prerequisites: CHM 245 and CHM 246; CHM 247 and 248 must be taken as corequisites	1
MTH 201 Calculus I Prerequisites: MTH 122 and MTH 123 or assignment through Grand Valley math placement	4	CIS 150 Introduction to Computing	3
Gen Ed	3	⁴ PHY 220 General Physics I Prerequisites: MTH 122 and MTH 123	5
² Elective	1		
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>15</i>
Year Three			
⁵ CHM 351 Introduction to Physical Chemistry Prerequisites: CHM 116, MTH 201, and PHY 220 (may be taken concurrently)	3	^{5,6} CHM 352 SWS Applied Physical Chemistry Prerequisites: CHM 116, MTH 201, CHM 351 and PHY 220 (may be taken concurrently)	1
⁷ CHM 391 Chemistry Seminar I	0	⁷ CHM 391 Chemistry Seminar I	1
³ PHY 221 General Physics II Prerequisites: PHY 220	5	CHM 321 Environmental Chemistry Prerequisites: CHM 231 or CHM 242 or CHM 247 or CHM 248	3
STA 215 Introductory Applied Statistics Prerequisites: MTH 110 or equivalent	3	¹ Track Course	3
¹ Track Course	3	Gen Ed	3
² Elective	1	Issue/Theme	3
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>14</i>
Year Four			
CHM 322 Environmental Chemical Analysis (Capstone) Prerequisites: CHM 221 or CHM 222, and CHM 231, CHM 242, CHM 247 or CHM 248	3	⁷ CHM 491 Chemistry Seminar II	1
⁷ CHM 491 Chemistry Seminar II	0	OSH 414 Environmental Safety and Health Regulations	3
⁸ CHM Elective Course	3	¹ Track Course	3
¹ Track Course	3	Gen Ed	3
Gen Ed	3	Gen Ed	3
Issue/Theme	3	Gen Ed	3
<i>Total</i>	<i>15</i>	<i>Total</i>	<i>16*</i>

See reverse for notes.

*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 or 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 The environmental emphasis also requires specialization in a discipline outside of chemistry. Students must choose one of the following tracks to complete the emphasis: Biology; Natural Resources Management; or Geology. See below for track courses.

² Elective refers to any course to help you earn the required 120 credits for graduation.

³ CHM 241 and CHM 242 may substitute for CHM 245/246/247/248.

⁴ Students interested in graduate school should take PHY 230/231 in place of PHY 220/221 and should also take MTH 202.

⁵ Students interested in graduate school should take CHM 356, 353, 358 and 355 or 455 instead of CHM 351 and 352.

⁶ Students must complete a total of two courses with an SWS attribute.

⁷ 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.

⁸ Chemistry elective must be taken at the 300-400 level and be 2-3 credits (approval required).

⁹ 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.

Declaring the Chemistry-Environmental Major:

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 – BA (or) BS Environmental Chemistry"
5. Click "Submit" and then "Change to New Program"

General Education Overlap

General Education Categories fulfilled by the Chemistry -Environmental Major:
Physical Sciences with Lab: CHM 115
Mathematical Sciences: MTH 122 or MTH 123 or MTH 201

Track Courses		
Choose ONE of the following tracks:		
Biology	Natural Resource Management	Geology
BIO 120 General Biology I BIO 215 General Ecology <i>And TWO of the following:</i> BIO 338 Environmental Ethics BIO 357 Environmental Microbiology BIO 440 Limnology	GEO 111 Exploring the Earth NRM 281 Principles of Soil Science <i>And TWO of the following:</i> GPY 307 Introduction to Computer Mapping/Geographic Information Systems NRM 320 Introduction to Resource Systems NRM 451 Natural Resource Policy NRM 452 Watershed and Wetland Management	GEO 111 Exploring the Earth GEO 112 Earth History <i>And TWO of the following:</i> GEO 440 geohydrology GEO 445 Introduction to Geochemistry GPY 307 Introduction to Computer Mapping/Geographic Information Systems

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