COLLEGE OF LIBERAL ARTS AND SCIENCES (CLAS) ACADEMIC ADVISING CENTER — PRIOR TO FALL 2016

CHEMISTRY-BS-TECHNICAL

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

Year One			
[4,9]**CHM 115** Principles of Chemistry I Prerequisites: High school chemistry and (MTH 110 or MTH 122 or MTH 125 or MTH 201)	4 *(6)*	[4,9]**CHM 116** Principles of Chemistry II Prerequisites: CHM 115 and (MTH 122 or MTH 125 or MTH 201)	5 *(7)*
[8]**MTH 122** College Algebra Prerequisite: MTH 110 or assignment through Grand Valley math placement	3	[8]**MTH 123** Trigonometry Prerequisite: MTH 122 or assignment through Grand Valley math placement (MTH 122 may be taken concurrently)	3
Gen Ed	3	**WRT 150** Strategies in Writing	4
Gen Ed	3	Gen Ed	3
Gen Ed	3		
Numbers noted within (parentheses) are contact hours Total	*16**	*Total*	*15*
Year Two			
[9]**CHM 222** Quantitative Analysis (*if taken before Fall 16)* Prerequisites: CHM 116; Corequisite: CHM 241 or CHM 245	3 *(6)*	**CHM 225** Instrumental Analysis I *(if taken before Fall 16)* Prerequisite: CHM 222	3 *(6)*
OR **CHM 221** Survey of Analytical Chemistry Prerequisites: CHM 116	4 *(7)*	OR **CHM 325** Survey of Analytical Chemistry Prerequisites: CHM 221; WRT 150 with a C or better	4 *(6)*
[1,9]**CHM 245** Principles of Organic Chemistry I	4	[1,9]**CHM 247** Principles of Organic Chemistry II	3
[1,9]**CHM 246** Principles of Organic Chemistry I Lab Prerequisites: CHM 116	1 *(4)*	[1,9]**CHM 248** Principles of Organic Chemistry II Lab Prerequisites: CHM 245 and CHM 246	1 *(4)*
MTH 201 Calculus I Prerequisites: MTH 122 and MTH 123 or assignment through Grand Valley math placement	4	**CIS 160** Programming with Visual Basic **OR CIS 162** Computer Science I Prerequisite: MTH 110	3 4
Gen Ed	3	**STA 215** Introductory Applied Statistics Prerequisite: MTH 110 or equivalent	3
		Gen Ed	3
Total	*15-16**	*Total*	*17-18**
Year Three			
[5]**CHM 351** Introduction to Physical Chemistry Prerequisites: CHM 116, MTH 201, and PHY 220 (may be taken concurrently)	3	[5, 7]**CHM 352** *SWS* Applied Physical Chemistry Prerequisites: CHM 116, CHM 351, MTH 201, and PHY 220 (PHY 220 and CHM 351 may be taken concurrently)	1 *(3)*
~~[2]**CHM 425** Instrumental Analysis II~~ *(if taken before Fall 16)* Prerequisite: CHM 225 ***No longer offered.***	3 *(4)*	[4]**CHM 391** Chemistry Seminar I Prerequisites: 18 credits of chemistry and junior standing	1
OR **CHM 427** Green and Environmental Chemistry Lab Prerequisite: CHM 221; CHM 241, or CHM 245 and CHM 246	3	**PHY 221** General Physics II Prerequisites: PHY 220	5 *(7)*
OR **CHM 457** Advanced Physical and Instrumental Chemistry Lab Prerequisites: CHM 221 and CHM 352	3 *(5)*	**CHM 311** Green Chemistry and Industrial Processes *(if taken before Fall 16)* Prerequisites: CHM 242 or CHM 247	3
PHY 220 General Physics I Prerequisites: MTH 122 and MTH 123	5 *(7)*	OR **CHM 421** Green Chemistry for Sustainable Environment ***(offered in Fall semester)*** Prerequisite: One of CHM 231, CHM 242, or CHM 247	3
Issue	3	Issue	3
[3]Elective	1	Gen Ed	3
Total	*15*	*Total*	*16**
Year Four			
[6]Upper level Chemistry Elective Course	3	[4]**CHM 491** Chemistry Seminar II (Capstone) Prerequisites: CHM 391 and senior standing	1
Gen Ed	3	**CHM 344** Qualitative Organic Analysis Prerequisite: CHM 242 or CHM 247	3
[3]Elective	3	OR **CHM 447** Organic Synthesis and Characterization Prerequisite: CHM 242, or CHM 247 and CHM 248	3
[3]Elective	3	Gen Ed	3
[3]Elective	3	[3]Elective	3
		[3]Elective	3
		[3]Elective	3
Total	*15*	*Total*	*16**

See reverse for notes.

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

[1] CHM 241 and CHM 242 may substitute for CHM 245/246/247/248 with advisor approval.
[2] Offered fall semester on sufficient demand. Since CHM 425 is not offered every fall semester, it is important students add it in the junior year if offered. See your faculty advisor if you have questions regarding CHM 425.
[3] Elective refers to any course that will help you earn the required 120 credits needed to graduate.
[4]Chemistry majors who have AP/IB Credit in CHM 115 and/or CHM 116 are generally better prepared for higher level chemistry courses if they take CHM 115 and CHM 116 at GVSU.
[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 select the elective from one of the following chemistry courses: CHM 321, 322, 441, 442, or 461. CHM 321 is offered winter semesters of odd-numbered years. CHM 322 is offered fall semesters of odd-numbered years.
[7] Students must complete two courses with an SWS attribute.
[8] Math proficiency exams are available for MTH 122 and MTH 123. ***To take the Math Proficiency Tests online, visit this link: gvsu.edu/s/mv***
[9]The following courses must be completed with a C or better grade: CHM 115, 116, 222, 225, 245, 246, 247, 248, 391.

Declaring the Chemistry-Technical Major:

1. In myBanner, select "Student" > "Student Records" > "Change Major" > "Change Major 1/Program"
2. Choose "Chemistry-BS-Technical" from the drop-down box.
3. Click "Submit" and then "Change to New Program"

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

Upper Level Chemistry Elective Courses Choose ONE of the following:
CHM 321 Environmental Chemistry *(no longer offered as of Fall 16)*
CHM 322 Environmental Chemical Analysis *(no longer offered as of Fall 16)*
CHM 441 Advanced Organic Chemistry
CHM 442 Polymer Chemistry
CHM 461 Biochemistry I
CHM 475 Electrochemistry
CHM 477 Synthetic Inorganic Chemistry

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

Please Friend the GVSU Chemistry Facebook page: https://www.facebook.com/gvsu.chemistrystockroom

The CLAS Academic Advising Center is located in C-1-140 MAK, 616-331-8585
http://www.gvsu.edu/clasadvising (Also find us on Orgsync, Facebook, and Twitter!)

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