

CHEMISTRY-BS-PROFESSIONAL

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

| Year One | | | |
|--|----------------------|---|----------------------|
| ^{2,8} CHM 115 Principles of Chemistry I Prerequisites: High school chemistry and (MTH 110 or MTH 122 or MTH 125 or MTH 201) | 4 (6) | ^{2,8} CHM 116 Principles of Chemistry II Prerequisites: CHM 115 and (MTH 122 or MTH 125 or MTH 201) | 5 (7) |
| ⁹ 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 |
| Gen Ed | 3 | WRT 150 Strategies in Writing | 4 |
| Gen Ed | 3 | Gen Ed | 3 |
| Gen Ed | 3 | | |
| <i>Numbers noted within (parentheses) are contact hours</i> | 16* | <i>Total</i> | 15 |
| Year Two | | | |
| CHM 222 Quantitative Analysis (<i>if taken before Fall 16</i>) Prerequisites: CHM 116; Corequisite: CHM 241 or CHM 245 OR CHM 221 Survey of Analytical Chemistry Prerequisites: CHM 116 | 3 (6) 4 (7) | ⁸ CHM 225 Instrumental Analysis I (<i>if taken before Fall 16</i>) Prerequisite: CHM 222 OR CHM 325 Survey of Analytical Chemistry Prerequisites: CHM 221; WRT 150 with a C or better | 3 (6) 4 (6) |
| ¹ CHM 245 Principles of Organic Chemistry I | 4 | ^{1,8} CHM 247 Principles of Organic Chemistry II | 3 |
| ¹ CHM 246 Principles of Organic Chemistry I Lab Prerequisites: CHM 116; CHM 245 and 246 must be taken concurrently | 1 (4) | ^{1,8} CHM 248 Principles of Organic Chemistry II Lab Prerequisites: CHM 245 and CHM 246; CHM 247 and 248 must be taken concurrently | 1 (4) |
| MTH 201 Calculus I Prerequisites: MTH 122 and MTH 123 or assignment through Grand Valley math placement | 4 | MTH 202 Calculus II Prerequisite: MTH 201 | 4 |
| Gen Ed | 3 | PHY 230 Principles of Physics I Prerequisite: MTH 201 | 5 (7) |
| <i>Total</i> | 15-16* | <i>Total</i> | 16-17* |
| Spring/Summer | | | |
| MTH 203 Calculus III (recommended) | 4 | | |
| <i>Total</i> | 4 | | |
| Year Three | | | |
| CHM 353 Physical/Computational Chemistry Lab I (<i>no longer offered/required after Fall 16</i>) Prerequisites: CHM 222 and CHM 356 (may be taken concurrently) | 2 (4) | ^{3,4} CHM 355 SWS Physical Chemistry Laboratory II (<i>no longer offered as of Fall 16</i>) Prerequisites: CHM 222, CHM 353, and CHM 358 (may be taken concurrently) | 1 (4) |
| CHM 356 Physical Chemistry I Prerequisites: CHM 116, MTH 202, PHY 230 | 3 | OR CHM 352 SWS Applied Physical Chemistry Prerequisites: CHM 351 or 358 (may be taken concurrently) | 1 (3) |
| CHM 372 Inorganic Chemistry Lab Techniques (<i>no longer offered as of Fall 16</i>) Prerequisites: CHM 222; & CHM 247 or CHM 248 or CHM 249 OR CHM 477 Synthetic Inorganic Chemistry Prerequisites: CHM 273; CHM 242 or 248 | 1 (4) 3 (6) | CHM 358 Physical Chemistry II Prerequisites: CHM 356 and PHY 231 (may be taken concurrently) | 3 |
| CHM 391 Chemistry Seminar I Prerequisites: 18 credits of chemistry and junior standing | 1 | CHM 461 Biochemistry I Prerequisites: CHM 242, CHM 247, or CHM 248 | 4 |
| PHY 231 Principles of Physics II Prerequisite: PHY 230 | 5 (7) | Issue | 3 |
| Gen Ed | 3 | ⁵ Elective | 3 |
| <i>Total</i> | 15-16* | <i>Total</i> | 14 |
| Year Four | | | |
| CHM 471 Advanced Inorganic Chemistry Prerequisites: CHM 351 or CHM 356 may be taken concurrently | 3 3 | CHM 491 Chemistry Seminar II (Capstone) Prerequisites: CHM 391 and senior standing | 1 |
| ⁶ Chemistry non-lab Elective Course | 3 | ⁷ Upper Level Chemistry Lab Elective Course | 3 |
| Gen Ed | 3 | ⁷ Upper Level Chemistry Lab Elective Course | 3 |
| Issue | 3 | Gen Ed | 3 |
| ⁵ Elective | | ⁵ Elective | 1-2 |
| <i>Total</i> | 15 | <i>Total</i> | 14-15 |

See reverse for more notes

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

¹CHM 241 and CHM 242 may substitute for CHM 245/246/247/248 with advisor approval.

²Chemistry 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.

³CHM 455 may be taken instead of CHM 355. The additional 28 hours of lab count towards upper-level lab requirement.

⁴Students must complete two courses with an SWS attribute.

⁵Elective refers to any course that will help you earn the required 120 credits for graduation.

⁶Choose one course from the following non-lab classes: CHM 441, 463, 473, or 442.

⁷You must choose lab electives, totaling 80 hours, from the following: CHM 322 (42), 344 (42), 425 (28), 462 (84), 452 (70), 455 (28), or 499 (84). Numbers in () are the numbers of hours for each course.

⁸The following courses must be completed with a C or better grade: CHM 115, 116, 222, 225, 245, 246, 247, 248, 391.

⁹Math proficiency exams are available for MTH 122 and MTH 123. **To take the Math Proficiency Tests online, visit this link: gvsu.edu/s/mv**

Declaring the Chemistry-Professional Major:

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

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

| Chemistry Elective Courses for the Chemistry Major Professional Emphasis | |
|--|---|
| Choose ONE of the following non-lab courses: | 80 hours of lab electives are required. Choose from the following: Numbers in () are the number of hours for each course |
| CHM 441 Advanced Organic Chemistry CHM 442 Polymer Chemistry CHM 463 Biochemistry II CHM 473 Organometallic Chemistry | CHM 322 (42) Environmental Chemical Analysis (<i>no longer offered as of Fall 16</i>) CHM 344 (42) Qualitative Organic Analysis (<i>no longer offered as of Fall 16</i>) CHM 425 (28) Instrumental Analysis II (<i>no longer offered as of Fall 16</i>) CHM 452 (70) Advanced Synthetic Techniques (<i>no longer offered as of Fall 16</i>) CHM 455 (28) Physical/Computational Chemistry Lab II (<i>no longer offered as of Fall 16</i>) CHM 462 (84) Techniques in Biochemistry CHM 499 (42-84 depending on credits) Investigation Problems |
| Additional New Elective options as of Fall 2016: | |
| CHM 475 Electrochemistry CHM 427 Green and Environmental Chemistry Lab CHM 447 Organic Synthesis and Characterization 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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**See <http://gvsu.edu/s/zY> for additional details regarding professional school information.
Follow the Pre-Professional Blog: <https://preprofessionallakers.wordpress.com>**