



## Chemistry Minor

*A minor in chemistry requires a minimum cumulative GPA of 2.0 in courses counting towards the minor. Students choosing chemistry as a teaching minor for secondary certification are required to have a minimum cumulative GPA of 2.7 in the minor courses.*

### Complete all of the following:

- \_\_\_\_\_ CHM 115 – Principles of Chemistry (5 cr.)  
(Prereqs: High School Chemistry, MTH 110 or MTH 122 or MTH 125 or MTH 201)
- \_\_\_\_\_ CHM 116 – Principles of Chemistry II (5 cr.) (Prereqs: CHM 115 and MTH 122 or MTH 125 or MTH 201)
- \_\_\_\_\_ CHM 221 – Survey of Analytical Chemistry (4 cr.) (Prereq: CHM 116 or one full year of General Chemistry)  
**OR** CHM 222 – Quantitative Analysis (3 cr.) (Prereq: CHM 116. Coreq: CHM 241 or 245)  
**AND** CHM 225 – Instrumental Analysis I (3 cr.) (Prereq: CHM 222)
- \_\_\_\_\_ CHM 241 – Organic Chemistry for Life Sciences I (4 cr.) (Prereq: CHM 116)  
**OR** CHM 245 – Principles of Organic Chemistry I (3 cr.) (Prereq: CHM 116, Coreq: CHM 246)  
**AND** CHM 246 – Principles of Organic Chemistry I Lab (1 cr.) (Prereq: CHM 116, Coreq: CHM 245)
- \_\_\_\_\_ CHM 242 – Organic Chemistry for Life Sciences II (4 cr.) (Prereq: CHM 241)  
**OR** CHM 247 – Principles of Organic Chemistry II (3 cr.) (Prereq: CHM 245/246, Coreq: CHM 248)  
**AND** CHM 248 – Principles of Organic Chemistry II Lab (1 cr.) (Prereq: CHM 245/246, Coreq: CHM 247)

### Choose one elective from the following courses:

- \_\_\_\_\_ CHM 232 – Biological Chemistry (4 cr.) (Prereq: CHM 231)
- \_\_\_\_\_ CHM 321 – Environmental Chemistry (3 cr.) (Prereq: CHM 231 or CHM 242 or CHM 247 or CHM 248)
- \_\_\_\_\_ CHM 322 – Environmental Chemistry Analysis (3 cr.)  
(Prereqs: CHM 221 or CHM 222 and CHM 231, CHM 242, CHM 247 or CHM 248)
- \_\_\_\_\_ CHM 351 – Introduction to Physical Chemistry (3 cr.)  
(Prereqs: CHM 116, MTH 201, and PHY 220 (may be taken concurrently))
- \_\_\_\_\_ CHM 419 – Chemistry in Secondary Education (3 cr.)  
(Prereqs: Chemistry major or minor, teacher certification candidate, and 18 credits in chemistry)
- \_\_\_\_\_ CHM 442 – Polymer Chemistry (3 cr.)  
(Prereqs: CHM 242, CHM 247, or CHM 248, and CHM 351 or CHM 356 (CHM 351 or CHM 356 may be taken concurrently))
- \_\_\_\_\_ CHM 461 – Biochemistry I (4 cr.) (Prereq: CHM 242, CHM 247 or CHM 248)

**\*\*A chemistry minor for teacher certification** requires the following course and a minimum GPA of 2.7 in chemistry courses applied to the minor:

- \_\_\_\_\_ CHM 419 – Chemistry in Secondary Education (3 cr.)  
(Prereqs: Chemistry major or minor, teacher certification candidate, and 18 credits in chemistry)

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

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

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

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### Chemistry: Where to Begin?

The information below is intended to ensure that you start in the proper course.

#### Start in Chemistry 109 if:

- You did not have chemistry in high school **OR**
- You had high school chemistry but **did not** cover chemical nomenclature, stoichiometry (law of conservation of matter), temperature, heat, electrostatic attraction, phases of matter, and density

#### Start in Chemistry 115 if:

- Your high school chemistry course covered chemical nomenclature, stoichiometry (law of conservation of matter), temperature, heat, electrostatic attraction, phases of matter, and density **OR**
- You completed CHM 109 (at GVSU) or transferred in an equivalent course

#### **AND**

- You completed MTH 110 or placed out of the course after taking a placement exam.

NOTE: If you did not waive MTH 122, it should be taken concurrently for students planning to go on to CHM 116.

#### Start in Chemistry 116 if:

- You have completed CHM 115, **AND** MTH 122 or MTH 125 **OR**
- You scored 4 or 5 on the AP chemistry exam **OR**
- You passed a chemistry CLEP exam

#### **AND**

- You have credit for or waived MTH 122 or MTH 125.

NOTE: A "C" in CHM 115 is highly recommended before moving on to CHM 116

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