

## Freshman Chemistry Major Advisement Summary

General department information [www.unr.edu/chemistry](http://www.unr.edu/chemistry)  
 Freshman information [www.unr.edu/chemistry/advising/incoming-freshman-advising](http://www.unr.edu/chemistry/advising/incoming-freshman-advising)  
 Chemistry Degrees [www.unr.edu/chemistry/degrees/undergraduate-students](http://www.unr.edu/chemistry/degrees/undergraduate-students)  
 Freshman Orientation Homepage [www.unr.edu/orientation](http://www.unr.edu/orientation)

**Chemistry major Advisors:**

Professor Sarah Cummings, [sac@unr.edu](mailto:sac@unr.edu), 775-682-6457, CB 123 (for surnames beginning with the letters A - M)

Professor Lyndsay Munro, [lmunro@unr.edu](mailto:lmunro@unr.edu), 775-784-1942, CB 122 (for surnames beginning with the letters N - Z)

*Identify yourself as a Chemistry Major if you call or write!*

**Freshman chemistry majors ideally should take CHEM 201, however CHEM 121A+121L is acceptable.**

Your ACT or SAT mathematics score dictates placement into either CHEM 121A+121L or 201 and other first semester course selections:

ACT math	SAT math	Typical first semester course schedule	Credits
28 and above	630 and above	CHEM 201 – Gen. Chemistry for Sci. and Eng. I	4
		MATH 181 – Calculus I	4
		SCI 110.1003 – First Year Exp. I: Sci. and Math.	1
		English <sup>†</sup>	3
		Core Fine Arts <b>or</b> Social Science	3
27	610 – 620	CHEM 121A – General Chemistry I	3
		CHEM 121L – General Chemistry I Laboratory	1
		MATH 127 – Precalculus II	3
		SCI 110.1003 – First Year Exp. I: Sci. and Math.	1
		English <sup>†</sup>	3
		General Elective	1
22 – 26	500 – 600	Core Fine Arts <b>or</b> Social Science	3
		MATH 126 – Precalculus I <sup>‡</sup>	3
		SCI 110.1003 – First Year Exp. I: Sci. and Math.	1
		English <sup>†</sup>	3
		General Elective	5
below 22	below 500	Core Fine Arts <b>or</b> Social Science	3
		MATH 096 – Intermediate Algebra I <sup>‡</sup>	3
		SCI 110.1003 – First Year Exp. I: Sci. and Math.	1
		English <sup>†</sup>	3
		General Elective	5
		Core Fine Arts <b>or</b> Social Science	3

**Notes:**

<sup>†</sup>For example: ENG 101, see page 2 for English placement information.

<sup>‡</sup>You should attempt to gain admission to MATH 127 or MATH 181 prior to the start of the Fall semester, see the section "Solving mathematics prerequisite problems" on page 2.

## Solving mathematics prerequisite problems:

The mathematics prerequisite for CHEM 201 is prior completion or co-enrollment in MATH 181 (or an equivalent calculus course). The mathematics prerequisite for CHEM 121A+121L is prior completion or co-enrollment in MATH 127 or MATH 128 (or a higher core curriculum math course).

1. If your mathematics exam scores are less than ACT = 27 or SAT = 610 then you should attempt to gain admission to MATH 181, MATH 128, or MATH 127 by one of the following routes:

- gain admission to MATH 181, 128, or 127 by obtaining the requisite scores on the ACCUPLACER placement test. Information about this test is available at: [www.unr.edu/math-center/accuplacer-info](http://www.unr.edu/math-center/accuplacer-info)
- gain admission to MATH 127 by completing MATH 126 during the summer session.

2. Chemistry majors who are unable to enroll in MATH 181, MATH 128, or MATH 127 should enroll in MATH 126, if possible. If your test scores are less than ACT = 22 or SAT = 520 then you should attempt to gain admission to MATH 126 by one of the following routes:

- by obtaining the requisite scores on the ACCUPLACER placement test. Information about this test is available at: [www.unr.edu/math-center/accuplacer-info](http://www.unr.edu/math-center/accuplacer-info)
- by completing MATH 096 during the summer session. For additional information on the "Freshman Start" summer program, see: [www.unr.edu/365/learning-options/freshman-start](http://www.unr.edu/365/learning-options/freshman-start)

3. Chemistry majors who are unable to enroll in MATH 181, MATH 128, MATH 127, or MATH 126 should enroll in MATH 096.

## Freshman English placement:

Your ACT English or SAT Verbal/Critical Reading score dictates your placement into the first semester English course:

ACT English	SAT Verb./Crit. reading	First semester English course <sup>†</sup>
30 and above	680 and above	ENG 102 – Composition II (3 credits)
21 – 29	510 – 670	ENG 101 – Composition I (3 credits)
18 – 20	440 – 500	ENG 100I – Composition Intensive (3 credits) <b>or</b> ENG 100I + 105 + 106 (5 credits)
17 and below	430 and below	ENG 098 – Preparatory Composition (3 credits)

<sup>†</sup>Freshman who do not qualify to start in ENG 101 during the fall semester should consider taking ENG 101I + 105 + 106 **or** ENG 098 during the summer session. For additional information on the "Freshman Start" summer program, see: [www.unr.edu/365/learning-options/freshman-start](http://www.unr.edu/365/learning-options/freshman-start)  
If you believe your test score do not accurately reflect your writing skills, you may request an alternate placement evaluation; see: [www.unr.edu/cla/engl/core\\_writing/cw\\_course\\_placement.html](http://www.unr.edu/cla/engl/core_writing/cw_course_placement.html)

## Rules for Advanced Placement (AP) credit in CHEM courses

Score of AP Chemistry exam	AP credit granted	UNR AP labs you passed while in high school	CHEM course to take in year 1 at UNR
1 or 2	None	None 121L 121L, 122L	121A+121L or 201, 122A+122L or 202 121A, 122A+122L 121A, 122A
3	121A (3 credits) <sup>†</sup>	None 121L 121L, 122L	121L, 122A+122L 122A+122L, 330 122A, 330
4 or 5	121A, 122A (6 credits) <sup>‡</sup>	None 121L 121L, 122L	121L, 122L 122L, 330 330, 341

### Notes:

<sup>†</sup>Core science requirement is satisfied only after successful completion of CHEM 121L.

<sup>‡</sup>Core science requirement is satisfied only after successful completion of CHEM 121L and 122L.

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### UNR offers four undergraduate degree emphases in Chemistry:

Bachelor of Science in Chemistry – Professional Chemistry Emphasis\*

Bachelor of Science in Chemistry – Environmental Chemistry Emphasis\*

Bachelor of Science in Chemistry – General Emphasis

Bachelor of Science in Chemistry – Pre-medical Emphasis

\*Degree emphases certified by the American Chemical Society

Detailed information about these degree programs is given in the UNR *General Catalog* (see: [catalog.unr.edu/content.php?catoid=12&navoid=2900](http://catalog.unr.edu/content.php?catoid=12&navoid=2900)) and the *Chemistry Major's Handbook*, which can be downloaded from the UNR Chemistry Major's Homepage ([www.unr.edu/chemistry/degrees/undergraduate-students](http://www.unr.edu/chemistry/degrees/undergraduate-students)).

**Suggested course schedules for each of these emphases are on the following pages.**

## **VII. Recommended Schedule**

**Example for students seeking an ACS-certified degree with Professional Chemistry Option. Assumes placement into MATH 181 in first semester. Please see department advisor for individualized schedule.**

### **A. First Year**

**Fall Semester (15 units)**

**CHEM 201 - General Chemistry for Scientists and Engineers I (4 units)**

**MATH 181 - Calculus I (4 units)**

**ENG 101 - Composition I (3 units)**

**Core Curriculum Social Science or Fine Arts (3 units)**

**SCI 110 - First Year Experience I: Science and Mathematics (1 unit) (Recommended)**

**Spring Semester (15 units)**

**CHEM 202 - General Chemistry for Scientists and Engineers II (4 units)**

**MATH 182 - Calculus II (4 units)**

**ENG 102 - Composition II (3 units)**

**Core Curriculum Social Science or Fine Arts (3 units)**

**General Elective (1 unit)**

### **B. Second Year**

**Fall Semester (16 units)**

**CHEM 341 - Organic Chemistry for Scientists and Professionals I (3 units)**

**CHEM 347 - Laboratory Techniques of Organic Chemistry I (2 units)**

**MATH 283 - Calculus III (4 units)**

**PHYS 180 - Physics for Scientists and Engineers I (3 units)**

**PHYS 180L - Physics for Scientists and Engineers Laboratory I (1 unit)**

**CH 201 - Ancient and Medieval Cultures (3 units)**

**Spring Semester (15 units)**

**CHEM 342 - Organic Chemistry for Scientists and Professionals II (3 units)**

**CHEM 348 - Laboratory Techniques of Organic Chemistry II (2 units)**

**MATH 285 - Differential Equations (3 units)**

**PHYS 181 - Physics for Scientists and Engineers II (3 units)**

**PHYS 181L - Physics for Scientists and Engineers Laboratory II (1 unit)**

**CH 202 - The Modern World (3 units)**

### **C. Third Year**

**Fall Semester (14 units)**

**CHEM 421 - Physical Chemistry I (3 units)**

**CHEM 330 - Analytical Chemistry (4 units)**

**BIOL 190 - Introduction to Cell and Molecular Biology (3 units)**

**CH 203 - American Experiences and Constitutional Change (3 units)**

**General Elective (1 unit)**

**Spring Semester (15 units)**

**CHEM 422 - Physical Chemistry II (3 units)**

**CHEM 423 - Physical Chemistry Laboratory (3 units)**

**CHEM 431 - Advanced Inorganic Chemistry (3 units)**

**BCH 400 - Introductory Biochemistry (4 units)**

**General Electives (2 units)**

**D. Fourth Year**

**Fall Semester (15 units)**

**CHEM 435 - Chemical Synthesis (3 units)**

**CHEM 495 - Senior Thesis in Chemistry I (3 units)**

**Chemical science elective (see list III C) (3 units)**

**General Electives (6 units)**

**Spring Semester (15 units)**

**CHEM 455 - Instrumental Analysis (3 units)**

**Chemical science elective (see list III C) (2-3 units)**

**Non-Chemistry Core Curriculum Capstone (selected to also satisfy Diversity requirement) (3 units)**

**General Electives (6-7 units)**