



Department of Chemistry and Forensic Science  
College of Science, Technology, Engineering, and  
Math (2025-26)

**Suggested Curriculum Guide for BS Chemistry, Pre-Pharmacy Concentration**

**Freshman (1<sup>st</sup> Semester) 18 hrs**

|                                                      |   |
|------------------------------------------------------|---|
| GSD 101- Foundations in Learning                     | 3 |
| <sup>c</sup> BIO 208- Human Anatomy and Physiology I | 3 |
| BIO 208L- Human Anatomy and Physiology I             | 1 |
| Lab CHE 111- General Chemistry I                     | 3 |
| CHE 111L- General Chemistry I Lab                    | 1 |
| MAT 234- Calculus I                                  | 4 |
| Gen. Ed. 1A ( <i>ENG 101</i> )                       | 3 |

**Sophomore (1<sup>st</sup> Semester) 16 hrs**

|                                                                                                                     |   |
|---------------------------------------------------------------------------------------------------------------------|---|
| Free Elective ( <i>BIO 111 &amp; BIO 111L recommended</i> )- Cell and Molecular Biology/Lab                         | 4 |
| CHE 361- Organic Chemistry I                                                                                        | 3 |
| CHE 361L- Organic Chemistry I Lab                                                                                   | 1 |
| <sup>c</sup> PHY 131 <u>or</u> 201 ( <i>fulfills Gen. Ed. 4</i> )- College Physics I <u>or</u> University Physics I | 5 |
| ECO 230- Principles of Microeconomics                                                                               | 3 |

**Junior (1<sup>st</sup> Semester) 16 hrs**

|                                                                                   |   |
|-----------------------------------------------------------------------------------|---|
| CHE 325- Analytical Chemistry                                                     | 3 |
| CHE 325L- Analytical Chemistry Lab                                                | 2 |
| CHE 430- Biochemistry of Macromolecules                                           | 3 |
| BIO 273 <u>or</u> 320- Clinical Microbiology <u>or</u> Principles of Microbiology | 4 |
| CHE 250 ( <i>fall only</i> ) - Descriptive Inorganic Chemistry                    | 3 |
| CHE 250L ( <i>fall only</i> )- Descriptive Inorganic Chemistry Lab                | 1 |

**Senior (1<sup>st</sup> Semester) 12 hrs**

|                                                   |   |
|---------------------------------------------------|---|
| CHE 385 ( <i>fall only</i> )- Chemical Literature | 3 |
| CHE Elective                                      | 3 |
| Gen. Ed. 3B Course 1                              | 3 |
| Gen. Ed. 5A ( <i>History</i> )                    | 3 |

**Freshman (2<sup>nd</sup> Semester) 17 hrs**

|                                                                            |   |
|----------------------------------------------------------------------------|---|
| CHE 112- General Chemistry II                                              | 3 |
| CHE 112L- General Chemistry II Lab                                         | 1 |
| Gen. Ed. 1B ( <i>ENG 102</i> )                                             | 3 |
| Gen. Ed. 1C ( <i>Oral Comm.</i> )                                          | 3 |
| <sup>c</sup> PSY 200 ( <i>fulfills Gen. Ed. 5B</i> )- Intro. to Psychology | 3 |
| BIO 308- Human Anatomy and Physiology II                                   | 3 |
| BIO 308L- Human Anatomy and Physiology II Lab                              | 1 |

**Sophomore (2<sup>nd</sup> Semester) 14 hrs**

|                                                                                        |   |
|----------------------------------------------------------------------------------------|---|
| Free Elective ( <i>BIO 112 &amp; BIO 112L recommended</i> )- Ecology and Evolution/Lab | 4 |
| CHE 362- Organic Chemistry II                                                          | 3 |
| CHE 362L- Organic Chemistry II Lab                                                     | 1 |
| <sup>c</sup> STA 270 ( <i>fulfills Gen. Ed. 2</i> )- Applied Statistics                | 4 |
| PHI 383- Health and Biomedical Ethics                                                  | 3 |

**Junior (2<sup>nd</sup> Semester) 13 hrs**

|                                                                                                                                                                    |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| CHE 349, 349A-N, 495A, <u>or</u> 495B- Applied Learning in Chemistry, cooperative Study: Chemistry, Independent Chemical Research, Chemistry Lab. Independent Res. | 3 |
| CHE 432- Biochemistry Lab                                                                                                                                          | 1 |
| Gen. Ed. 3A ( <i>Arts</i> )                                                                                                                                        | 3 |
| CHE 471- Principles of Physical Chemistry I                                                                                                                        | 3 |
| CHE 471L- Principles of Physical Chemistry I Lab                                                                                                                   | 1 |
| Free Elective                                                                                                                                                      | 2 |

**Senior (2<sup>nd</sup> Semester) 12 hrs**

|                                            |   |
|--------------------------------------------|---|
| Gen. Ed. 3B ( <i>Humanities</i> ) Course 2 | 3 |
| Gen. Ed. 5B Course 2                       | 3 |
| CHE Elective                               | 3 |
| CHE Elective                               | 3 |

<sup>c</sup> Denotes that 3 credit hours from this course are/can be applied to fulfill a Gen. Ed. requirement.

**UNIVERSITY GRADUATION REQUIREMENTS**

|                                                                      |                 |
|----------------------------------------------------------------------|-----------------|
| General Education                                                    | <b>39 hours</b> |
| Foundations in Learning (GSD 101; waived for transfers with 30+ hrs) | 36 hours        |
|                                                                      | 3 hours         |

**MAJOR REQUIREMENTS**

**Core Courses**

|                                                                                                                                                                                  |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| CHE 111, CHE 111L, CHE 112, CHE 112L, CHE 250, CHE 250L, CHE 325, CHE 325L, CHE 361, CHE 361L, CHE 362, CHE 362L, CHE 385, CHE 430, CHE 432, CHE 471, CHE 471L, CHE 485, MAT 234 | <b>41 hours</b> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|

**Concentration Requirements**

|                                                                                                                    |                 |
|--------------------------------------------------------------------------------------------------------------------|-----------------|
| PLUS EIGHT (8) HOURS selected from a combination of the following:<br>CHE 425, CHE 425L, CHE 431, CHE 450, CHE 472 | <b>11 hours</b> |
|--------------------------------------------------------------------------------------------------------------------|-----------------|

PLUS THREE (3) HOURS selected from a combination of the following:  
CHE 349, CHE 349A-N, CHE 495A, CHE 495B

**Supporting Course Requirements**

|                                                                                                                                                         |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <sup>c</sup> BIO 208, BIO 208L, BIO 308, BIO 308L, BIO 273 or BIO 320, ECO 230, PHI 383, <sup>c</sup> PHY 131 or PHY 201, <sup>c</sup> PSY 200, STA 270 | <b>18 hours</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|

**Free Electives**

**11 hours**

**Total Curriculum Requirements**

**120 hours**