

# CHEMISTRY, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN PRE-HEALTH PROFESSIONS

## Recommended Four-Year Plan

| Course  | Title  | Hours        |
|---|--|--------------|
| <b>First Year</b>   |  |              |
| <b>Fall</b>   |  |              |
| CHEM 107 & CHEM 111                                       | General Chemistry I and General Chemistry I Lab                | 4            |
| BIOL 114  | Biology II: Foundations of Molecules, Genes and Cells with Lab | 4            |
| ENGL 102  | Critical Writing   | 3            |
| ESAP 101  | FYRST Seminar *  | 1            |
| Select one of the following:                              |  | 3-4          |
| MATH 120  | Intermediate Algebra (if necessary)                            |              |
| MATH 125  | Precalculus (if necessary)                                     |              |
| MATH 225  | Calculus I (if necessary)                                      |              |
| MATH 230  | Calculus II  |              |
| <b>Hours</b>  |  | <b>15-16</b> |
| <b>Spring</b>   |  |              |
| CHEM 108 & CHEM 112                                       | General Chemistry II and General Chemistry II Lab              | 4            |
| BIOL 250  | Genetics with Lab  | 4            |
| STAT 152  | Elementary Statistics  | 3            |
| SUBJ 139  | Foundations of Academic Discovery                              | 3            |
| Select one of the following:                              |  | 4            |
| MATH 125  | Precalculus (if necessary)                                     |              |
| MATH 225  | Calculus I (if necessary)                                      |              |
| MATH 230  | Calculus II  |              |
| <b>Hours</b>  |  | <b>18</b>    |
| <b>Second Year</b>  |  |              |
| <b>Fall</b>   |  |              |
| CHEM 201 & CHEM 211                                       | Organic Chemistry I and Organic Chemistry Laboratory I         | 4            |
| BIOL 216  | Anatomy and Physiology I with Lab                              | 3            |
| ENGL 104  | Critical Reading   | 3            |
| PHYS 216  | University Physics 1 with Lab                                  | 4            |
| Select one of the following:                              |  | 4            |
| MATH 225  | Calculus I (if necessary)                                      |              |
| MATH 230  | Calculus II  |              |
| <b>Hours</b>  |  | <b>18</b>    |
| <b>Spring</b>   |  |              |
| CHEM 304 & CHEM 314                                       | Organic Chemistry II and Organic Chemistry Laboratory II       | 4            |
| BIOL 217  | Anatomy and Physiology II with Lab                             | 3            |
| MATH 230  | Calculus II  | 4            |
| PHYS 217  | University Physics 2 with Lab                                  | 4            |
| Select one of the following Civil Discourse Requirement): |  | 3            |

|  |  |              |
|--|--|--------------|
| COMM 200   | Civil Discourse: Theory & Practice                         |              |
| PHIL 110   | Ethics and Civil Discourse                                 |              |
| POLI 235   | Civil Discourse and Democracy                              |              |
| <b>Hours</b>   |  | <b>18</b>    |
| <b>Third Year</b>  |  |              |
| <b>Fall</b>  |  |              |
| Select one of the following:   |  | 7-8          |
| In even years, select:   |  |              |
| CHEM 335 & CHEM 336  | Biochemistry I and Biochemistry Laboratory I               |              |
| CHEM 442   | Inorganic Chemistry  |              |
| In odd years, select:  |  |              |
| CHEM 301 & CHEM 321  | Physical Chemistry I and Physical Chemistry Laboratory I   |              |
| CHEM 350 & CHEM 351  | Analytical Chemistry and Analytical Chemistry Lab          |              |
| EXER 250   | Medical Terminology  | 3            |
| Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) |  | 3            |
| Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) |  | 3            |
| <b>Hours</b>   |  | <b>16-17</b> |
| <b>Spring</b>  |  |              |
| Select one of the following:   |  | 7            |
| In odd years, select:  |  |              |
| CHEM 452   | Physical Inorganic Chemistry Laboratory                    |              |
| CHEM 460   | Materials Chemistry  |              |
| Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) |  |              |
| In even years, select:   |  |              |
| CHEM 302   | Physical Chemistry II                                      |              |
| CHEM 425 & CHEM 426  | Instrumental Analysis and Instrumental Analysis Laboratory |              |
| Select one of the following In-Depth Chemistry Electives (lecture and lab):  |  | 4            |
| CHEM 337 & CHEM 338  | Biochemistry II and Biochemistry Laboratory II             |              |
| CHEM 340   | Air Quality Assessment                                     |              |
| CHEM 370   | Water Quality Assessment                                   |              |
| CHEM 415 & CHEM 416  | Forensic Analysis and Forensic Analysis Lab                |              |
| CHEM 475   | Advanced Organic Synthesis                                 |              |
| PSYC 105   | Introduction to Psychology                                 | 3            |
| Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) |  | 3            |
| <b>Hours</b>   |  | <b>17</b>    |
| <b>Fourth Year</b>   |  |              |
| <b>Fall</b>  |  |              |
| Select one of the following:   |  | 7-8          |
| In even years, select:   |  |              |
| CHEM 335 & CHEM 336  | Biochemistry I and Biochemistry Laboratory I               |              |
| CHEM 442   | Inorganic Chemistry  |              |
| In odd years, select:  |  |              |

|  |   |                |
|--|---|----------------|
| CHEM 301<br>& CHEM 321   | Physical Chemistry I<br>and Physical Chemistry Laboratory I   |                |
| CHEM 350<br>& CHEM 351   | Analytical Chemistry<br>and Analytical Chemistry Lab          |                |
| Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) |   | 3              |
| Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) |   | 3              |
| Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) |   | 3              |
| <b>Hours</b>   |   | <b>16-17</b>   |
| <b>Spring</b>  |   |                |
| Select one of the following:   |   | 6-7            |
| In odd years, select:  |   |                |
| CHEM 452   | Physical Inorganic Chemistry Laboratory                       |                |
| CHEM 460   | Materials Chemistry   |                |
| Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) |   |                |
| In even years, select:   |   |                |
| CHEM 302   | Physical Chemistry II (even years)                            |                |
| CHEM 425<br>& CHEM 426   | Instrumental Analysis<br>and Instrumental Analysis Laboratory |                |
| Select one of the following In Depth Chemistry Electives (1 lecture and 1 lab):  |   | 4              |
| CHEM 337<br>& CHEM 338   | Biochemistry II<br>and Biochemistry Laboratory II             |                |
| CHEM 340   | Air Quality Assessment  |                |
| CHEM 370   | Water Quality Assessment                                      |                |
| CHEM 415<br>& CHEM 416   | Forensic Analysis<br>and Forensic Analysis Lab                |                |
| CHEM 475   | Advanced Organic Synthesis                                    |                |
| BIOL 330   | Microbiology/Lab  | 3              |
| Inquiry/Thread/Elective Course ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> ) |   | 3              |
| <b>Hours</b>   |   | <b>16-17</b>   |
| <b>Total Hours**</b>   |   | <b>134-138</b> |

<sup>1</sup> Course offered in multiple subjects; cannot take course in first major subject.

\* Students are encouraged to take ESAP 101 as a Free Elective.

*\*\*This document serves as a guide. Earning a degree requires at least 120 credits, though some majors require more. Before registering for courses, consult your academic adviser and review your curriculum guide. Be sure to review and confirm your plan with your adviser at least once each academic year.*

Major Code: 6118

Concentration Code: CHHS

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