

# CHEMISTRY, BACHELOR OF SCIENCE (BS)

## 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
Select one of the following:		4
MATH 125	Precalculus (if necessary)	
MATH 225	Calculus I (if necessary)	
MATH 230	Calculus II	
SUBJ 139	Foundations of Academic Discovery	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>14</b>
<b>Second Year</b>		
<b>Fall</b>		
CHEM 201 & CHEM 211	Organic Chemistry I and Organic Chemistry Laboratory I	4
Select one of the following:		4
MATH 225	Calculus I (if necessary)	
MATH 230	Calculus II	
PHYS 216	University Physics 1 with Lab	4
ENGL 104	Critical Reading	3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CHEM 202 & CHEM 212	Organic Chemistry II and Organic Chemistry Laboratory II	4
MATH 230	Calculus II (if necessary)	4
PHYS 217	University Physics 2 with Lab	4
Civil Discourse Requirement - select one		3
COMM 200	Civil Discourse: Theory & Practice	
PHIL 110	Ethics and Civil Discourse	
POLS 235	Civil Discourse and Democracy	

Inquiry/Thread/Elective Course (<https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/>) 3

**Hours** **18**

### Third Year

#### Fall

Select one of the following: 7-8

In even years, select:

CHEM 335 Biochemistry I  
& CHEM 336 and Biochemistry Laboratory I

CHEM 442 Inorganic Chemistry

In odd years, select:

CHEM 301 Physical Chemistry 1  
& CHEM 321 and Physical Chemistry Laboratory I

CHEM 350 Analytical Chemistry  
& CHEM 351 and Analytical Chemistry Lab

Inquiry/Thread/Elective Course (<https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/>) 3

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**Hours** **16-17**

#### Spring

Select one of the following: 4-7

In odd years, select:

CHEM 452 Physical Inorganic Chemistry Laboratory  
CHEM 460 Materials Chemistry

Inquiry/Thread/Elective Course (<https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/>)

In even years, select:

CHEM 302 Physical Chemistry II  
CHEM 425 Instrumental Analysis  
& CHEM 426 and Instrumental Analysis Laboratory

Select one of the following In Depth Chemistry Elective (1 lecture and 1 lab): 4

CHEM 337 Biochemistry II  
& CHEM 338 and Biochemistry Laboratory II

CHEM 340 Air Quality Assessment

CHEM 370 Water Quality Assessment

CHEM 415 Forensic Analysis  
& CHEM 416 and Forensic Analysis Lab

CHEM 475 Advanced Organic Synthesis

Inquiry/Thread/Elective Course (<https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/>) 3

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Inquiry/Thread/Elective Course (<https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/>) 3

**Hours** **17-20**

### Fourth Year

#### Fall

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	
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>

registering for courses. This plan should be reviewed, and verified, by you and your academic adviser at least once each academic year.

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### Spring

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 (1 Lecture and 1 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	
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>20</b>
<b>Total Hours**</b>		<b>131-137</b>

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

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

\*\*Some courses may require pre-requisites. Please see course descriptions to determine if there are any pre-requisites for that specific course.

\*\* This document is meant to serve as a guide. Some planners may show more than 120 credits because faculty have created flexibility in choosing courses. However, only 120 credits are required to obtain a degree. Please consult with your academic adviser and refer to your curriculum guide prior to