

# BIOLOGY, BACHELOR OF SCIENCE (BS) - CONCENTRATION IN PROFESSIONAL / PRE-OSTEOPATHY (LECOM) (3+4)

Under this joint agreement between Lake Erie College of Osteopathic Medicine (LECOM) and Slippery Rock University (SRU), select undergraduate students who have successfully completed specific course work at SRU may continue their education in osteopathic medicine at LECOM. For this program, students complete three years of undergraduate education at SRU and then complete their four years of medical school education at LECOM and its associated clinical sites.

Slippery Rock University will confer the Bachelor of Science degree in Biology to Slippery Rock students who have successfully completed the Slippery Rock courses at SRU and the first four semesters (pre-clinical) of LECOM's Academic curriculum.

For more information on admission requirements: <https://lecom.edu/admissions/entrance-requirements/early-acceptance-programs/>

## Program Learning Outcomes

- **Critical Thinking/Problem Solving:** Respective program graduates should demonstrate synthetic, analytical, and interpretive skills.
- **Knowledge/Content:** Graduates should demonstrate that they are founded in the discipline at the molecular, cellular, organismal, population, community, and ecosystem levels and that they have a fundamental understanding of chemistry, physics, and mathematics.
- **Practical Skills:** Graduates will demonstrate proficiency in laboratory related skills.
- **Communication Skills:** Respective program graduates should demonstrate strong oral, digital, and written communication skills.
- **Professional Attitude:** Graduates demonstrate professional attitude, behavior, and ability to interact with people from diverse backgrounds and cultures.
- **Degree Program Writing Competency:** Graduates will demonstrate proficiency in writing based on longitudinal data as opposed to point in time data.

## Related Links

Biology - LECOM Pre-Osteopathy 3+4, BS Program Page ([https://www.sru.edu/academics/majors-and-minors/biology-pre-osteopath-34-\(lecom\)/](https://www.sru.edu/academics/majors-and-minors/biology-pre-osteopath-34-(lecom)/))

Biology Department Page (<https://www.sru.edu/academics/colleges-and-departments/ches/departments/biology/>)

Professional Licensure/Certification Page (<https://www.sru.edu/students/student-consumer-information/professional-licensures/>)

## Curriculum Guide

### GPA Requirement

Overall GPA: 3.4 or higher  
Science GPA: 3.2 or higher

Core GPA: 2.0 or higher

### Summary\*

| Code | Title  | Hours |
|------|--|-------|
|      | Rock Studies Requirements                          | 45    |
|      | Other Basic Requirements                           | 0-3   |
|      | Computer Competency                                | 0-3   |
|      | Major/Concentration Requirements                   | 44    |
|      | Natural Science and Math College-Wide Requirements | 12    |
|      | Electives  | 19    |

\* All undergraduate degree programs require a minimum of 120 credits. Some courses meet multiple requirements, but are only counted once toward the 120 credit total required to graduate. However, because this is a pre-professional program, credits taken during the 1<sup>st</sup> year of the graduate program are applied toward the undergraduate credit hours to meet the 120 credits required for your undergraduate degree.

### Rock Studies Requirements

| Code   | Title                              | Hours     |
|--|------------------------------------|-----------|
| <b>The Rock</b>  |                                    |           |
| SUBJ 139   | University Seminar <sup>1</sup>    | 3         |
| ENGL 102   | Critical Writing                   | 3         |
| ENGL 104   | Critical Reading                   | 3         |
| MATH 225   | Calculus I                         | 4         |
| Select one of the following:   |                                    | 3         |
| COMM 200   | Civil Discourse: Theory & Practice |           |
| PHIL 110   | Ethics and Civil Discourse         |           |
| POLS 235   | Civil Discourse and Democracy      |           |
| Subtotal   |                                    | 16        |
| <b>Integrated Inquiry</b>  |                                    |           |
| <i>Creative and Aesthetic Inquiry</i>  |                                    |           |
| Select 3 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> )               |                                    | 3         |
| <i>Humanities Inquiry</i>  |                                    |           |
| Select 3 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> )               |                                    | 3         |
| <i>Social Science Inquiry</i>  |                                    |           |
| Select 3 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> )               |                                    | 3         |
| <i>Natural Sciences Inquiry</i>  |                                    |           |
| CHEM 107   | General Chemistry I                | 3         |
| CHEM 111   | General Chemistry I Lab            | 1         |
| <i>Physical Sciences Inquiry</i>   |                                    |           |
| PHYS 211   | General Physics I with Lab         | 4         |
| Subtotal   |                                    | 17        |
| <b>Thematic Thread</b>   |                                    |           |
| Select 12 Credits ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> ) <sup>2</sup> |                                    | 12        |
| <b>Total Hours</b>   |                                    | <b>45</b> |

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

<sup>2</sup> From at least 3 categories; no more than 6 credits from one department; 6 credits must be 300-level or above.

## Basic Math Requirement

Check with your adviser or a current degree audit report to see if you have been exempted from this course. The credit earned in this course will not be counted toward the 120 credit hour minimum needed to earn a degree.

| Code   | Title             | Hours      |
|--|-------------------|------------|
| Complete one of the following:                 |                   | 0-3        |
| Meet required minimum SAT or ACT math score OR |                   |            |
| ESAP 110                                       | Beginning Algebra |            |
| <b>Total Hours</b>                             |                   | <b>0-3</b> |

## Computer Competency

| Code  | Title                                      | Hours      |
|---|--|------------|
| Demonstrate "computer competency" by one of the following:                |  | 0-3        |
| Pass Computer Competency Exam OR  |  |            |
| Select one of the following at SRU or another post-secondary institution: |  |            |
| CPSC 100  | Introduction to Computing for Liberal Arts |            |
| CPSC 110  | Computer Concepts                          |            |
| CPSC 130  | Introduction to Computing and Programming  |            |
| PE 202  | Technology for Wellness                    |            |
| <b>Total Hours</b>  |  | <b>0-3</b> |

## Major Requirements

- Students desiring a Biology Major must maintain at least a 2.000 average in Biology.
- Before progressing to a 200-level course, students must achieve a 2.000 average in Principles of Biology - BIOL 104.
- Students may register in 200-level courses in any order, but must maintain a Biology average of 2.000 or better and must complete the 200 core sequence before progressing to 300 and 400-level courses in the major.
- A student must repeat any 200-level course that brings the Biology average below a 2.000.
- Students should complete all 200-level Biology requirements by the end of their sophomore year.
- If you have questions about Financial Aid, visit their website (<https://www.sru.edu/admissions/financial-aid/>).
- To view the SRU policy on senior undergraduate students earning graduate credit, click here (<https://catalog.sru.edu/undergraduate/academic-policies/senior-undergraduate-students-earning-graduate-credit/>).

| Code                                | Title                                       | Hours |
|-------------------------------------|---|-------|
| <b>Biology Core Requirements</b>    |   |       |
| BIOL 104                            | Principles of Biology with Lab <sup>1</sup> | 4     |
| BIOL 201                            | General Botany with Lab <sup>1</sup>        | 4     |
| BIOL 212                            | General Zoology with Lab <sup>1</sup>       | 4     |
| BIOL 250                            | Genetics with Lab <sup>1</sup>              | 4     |
| Subtotal                            |   | 16    |
| <b>Required Upper-Level Biology</b> |   |       |
| BIOL 330                            | Microbiology/Lab                            | 3     |
| BIOL 340                            | Vertebrate Anatomy with Lab                 | 3     |
| BIOL 410                            | Animal Physiology with Lab                  | 3     |
| Subtotal                            |   | 9     |

## Required Chemistry Courses

|          |                                 |    |
|----------|---------------------------------|----|
| CHEM 108 | General Chemistry II            | 3  |
| CHEM 112 | General Chemistry II Lab        | 1  |
| CHEM 201 | Organic Chemistry I             | 3  |
| CHEM 202 | Organic Chemistry II            | 3  |
| CHEM 211 | Organic Chemistry Laboratory I  | 1  |
| CHEM 212 | Organic Chemistry Laboratory II | 1  |
| CHEM 335 | Biochemistry I                  | 3  |
| Subtotal |                                 | 15 |

## Required Physics Course

|          |                          |   |
|----------|--------------------------|---|
| PHYS 213 | General Physics III/ Lab | 4 |
|----------|--------------------------|---|

## Major Field Test

Field Test required of all Biology students before graduation

**Total Hours** **44**

<sup>1</sup> Core GPA

## Natural Science and Math College-Wide Requirements

| Code     | Title                      | Hours |
|----------|----------------------------|-------|
| CHEM 107 | General Chemistry I        | 3     |
| CHEM 111 | General Chemistry I Lab    | 1     |
| MATH 225 | Calculus I                 | 4     |
| PHYS 211 | General Physics I with Lab | 4     |

## Additional LECOM Osteopathic Prerequisites

| Code                         | Title                        | Hours |
|------------------------------|------------------------------|-------|
| Select two of the following: |                              |       |
| INDP 201                     | Principles of Sociology      |       |
| INDP 202                     | Introduction to Anthropology |       |
| PHIL 101                     | Philosophical Inquiry        |       |
| PHIL 325                     | Medical/Health Care Ethics   |       |
| PSYC XXX                     | Any PSYC Course              |       |

## Co-curricular and Experiential Learning

Students are encouraged to explore additional curricular and co-curricular opportunities. There is a strong correlation between long-term student success and participation in the following types of programs and activities:

- Volunteering
- Job Shadowing

BIOLOGY - PROFESSIONAL - BS (6108)

LECOM Pre-Osteopath (3+4) (61LE)

This program is effective as of Fall 2019.

Revised 6.20.2020

UCC 2.5.2019

## Important Curriculum Guide Notes

This Curriculum Guide is provided to help SRU students and prospective students better understand their intended major curriculum. Enrolled SRU students should note that the My Rock Audit may place already-earned and/or in progress courses in different, yet valid, curriculum categories. Enrolled SRU students should use the My Rock Audit Report and materials and information provided by their faculty advisers to ensure accurate progress towards degree completion. *The information*

on this guide is current as of the date listed. Students are responsible for curriculum requirements at the time of enrollment at the University.

PASSHE - Pennsylvania State System of Higher Education Institutions

## Recommended Three-Year Plan

| Course   | Title   | Hours     |
|--|---|-----------|
| <b>First Year</b>  |   |           |
| <b>Fall</b>  |   |           |
| ENGL 102   | Critical Writing  | 3         |
| BIOL 104   | Principles of Biology with Lab  | 4         |
| CHEM 107   | General Chemistry I   | 3         |
| CHEM 111   | General Chemistry I Lab   | 1         |
| INDS 101   | FIRST Seminar <sup>%</sup>  | 1         |
| MATH 225   | Calculus I  | 4         |
| <b>Hours</b>   |   | <b>16</b> |
| <b>Spring</b>  |   |           |
| Select one 200-level Core Course:  |   | 4         |
| BIOL 201   | General Botany with Lab   |           |
| BIOL 212   | General Zoology with Lab  |           |
| BIOL 250   | Genetics with Lab   |           |
| CHEM 108   | General Chemistry II  | 3         |
| CHEM 112   | General Chemistry II Lab  | 1         |
| ENGL 104   | Critical Reading  | 3         |
| SUBJ 139   | University Seminar <sup>1</sup>   | 3         |
| Creative & Aesthetic Inquiry ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> ) |   | 3         |
| <b>Hours</b>   |   | <b>17</b> |
| <b>Second Year</b>   |   |           |
| <b>Fall</b>  |   |           |
| Select one 200-level Core Course:  |   | 4         |
| BIOL 201   | General Botany with Lab   |           |
| BIOL 212   | General Zoology with Lab  |           |
| BIOL 250   | Genetics with Lab   |           |
| CHEM 201   | Organic Chemistry I   | 3         |
| CHEM 211   | Organic Chemistry Laboratory I  | 1         |
| PSYC 105   | Introduction to Psychology (Recommended for Social Science Inquiry Requirement) | 3         |
| Select one of the following:   |   | 3         |
| COMM 200   | Civil Discourse: Theory & Practice  |           |
| PHIL 110   | Ethics and Civil Discourse  |           |
| POLS 235   | Civil Discourse and Democracy   |           |
| Humanities Inquiry ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> )           |   | 3         |
| Declare a Thematic Thread <sup>2</sup>   |   |           |
| <b>Hours</b>   |   | <b>17</b> |
| <b>Spring</b>  |   |           |
| Behavioral Science   |   | 3         |
| Select one 200-level Core Course:  |   | 4         |
| BIOL 201   | General Botany with Lab   |           |
| BIOL 212   | General Zoology with Lab  |           |
| BIOL 250   | Genetics with Lab   |           |
| CHEM 202   | Organic Chemistry II  | 3         |

|   |                                 |           |
|---|---------------------------------|-----------|
| CHEM 212  | Organic Chemistry Laboratory II | 1         |
| Thematic Thread Requirement ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> ) |                                 | 3         |
| <b>Hours</b>  |                                 | <b>14</b> |
| <b>Third Year</b>   |                                 |           |
| <b>Fall</b>   |                                 |           |
| CHEM 335  | Biochemistry I                  | 3         |
| BIOL 340  | Vertebrate Anatomy with Lab     | 3         |
| BIOL 410  | Animal Physiology with Lab      | 3         |
| PHYS 211  | General Physics I with Lab      | 4         |
| Thematic Thread Requirement ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> ) |                                 | 3         |
| <b>Hours</b>  |                                 | <b>16</b> |
| <b>Spring</b>   |                                 |           |
| BIOL 330  | Microbiology/Lab                | 3         |
| PHYS 213  | General Physics III/ Lab        | 4         |
| Thematic Thread Requirement ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> ) |                                 | 3         |
| Thematic Thread Requirement ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-quick-guide/</a> ) |                                 | 3         |
| Free Elective   |                                 | 3         |
| <b>Hours</b>  |                                 | <b>16</b> |
| <b>Fourth Year</b>  |                                 |           |
| <b>Fall</b>   |                                 |           |
| LECOM Osteopathic School  |                                 |           |
| <b>Hours</b>  |                                 | <b>0</b>  |
| <b>Spring</b>   |                                 |           |
| LECOM Osteopathic School  |                                 |           |
| <b>Hours</b>  |                                 | <b>0</b>  |
| <b>Total Hours**</b>  |                                 | <b>96</b> |

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

<sup>2</sup> Work with your Academic Adviser to declare a Thematic Thread by the end of your fall semester in your second year. Click **here** to declare a thread.

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

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

Major Code: 6108  
Concentration Code: 61LE  
Revised date: 07.15.2021