# Department of Biological Sciences General Education & Pre-Major Recommendations & Tips

The General Education curriculum is designed to foster the development of critical skills such as thinking, writing, and speaking; while offering students the opportunity to explore the vast fields that make up the academy. Below are recommendations for biological sciences pre-majors as well as GE suggestions for non-biological sciences pre-majors that have a desire to explore courses aligned with GE learning outcomes within the biological sciences. For biological sciences pre-majors in order to graduate in a timely manner, it is essential that certain core courses be taken in a specific order. Additionally, there are particular courses that are beneficial for the biology major interested in pursuing specific career paths. It is therefore essential that all advisors of biology majors and the students themselves be aware of the core requirements that students must meet during their freshman and sophomore years.

The following are helpful **recommendations** based on the general education curriculum requirements and expectations for successful matriculation into the Department of Biological Sciences based on preferred concentration choices. Keep in mind, some of the courses are just recommendations and the interest of the student should be taken into account when making course selections. **Those courses that are required for the major are illustrated by a (*).**

## GE Requirements for Biological Sciences Pre-Majors

| General Education Learning Outcomes | Courses |
|---|---|
| **Critical Thinking** | *CHE 1313 General Chemistry I<br>***CHE 1113 is the co-requisite for CHE 1313***<br>***MAT prerequisites apply***<br><br>*MAT 2326 Statistics*<br>***This course can count as a Critical Thinking requirement, however is not necessary as a math requirement for the major if the student plans to take any of the Quantitative Literacy recommendations detailed below.*** |
| **Written Communication** | * BIO 2303 Scientific Writing<br>***A Level I Writing course must be taken prior to BIO 2303.*** |
| **Scientific Literacy** | *BIO 2301 General Biology I<br><br>*BIO 2302 General Biology II<br>***BIO 2301 & 2301 are both required and can be taken in any order, but these courses are pre-requisites for the major. BIO 2101 and BIO 2102 are co-requisites for BIO 2301 and BIO 2302, respectively.***<br><br>*CHE 1314 General Chemistry II<br>***CHE 1114 is the co-requisite for CHE 1314*** |
| **Quantitative Literacy** | ***When selecting quantitative literacy/math courses, students should be aware of the requirements of various professional programs or career paths they may be pursuing.***<br><br>***Any one of the following math courses can be taken as a prerequisite for the major:***<br>MAT 1311 College Algebra<br>MAT 1312 Pre-Calculus I<br>MAT 1313 Pre-Calculus II<br>MAT 1323 Fundamentals of Math<br><br>***Students are required to take one of the following for the major:***<br>MAT 2317 Calculus I<br>PSY 2326 Statistics<br>SOC 2326 Statistics |

## GE Biological Sciences Courses that Align with Learning Outcomes for Non-Science Majors

***Below are courses that are offered within the Department of Biological Sciences that are not a graduation requirement for any of our departmental programs, but do represent options for various GE learning outcomes for non-majors, pre-majors, and majors.***

| General Education Learning Outcomes | Courses |
|---|---|
| **Oral Communication** | BIO 1303 Scientific Ethics<br>*This course is not required, but it is an option that would fulfill the GE oral communication requirement.* |
| **Information Literacy** | BIO 2304 Scientific Investigation of Diseases<br>*This course is not required, but it is an option that would fulfill the GE oral communication requirement.* |
| **Scientific Literacy** | BIO 1301 Biological Concepts<br>BIO 1305 Human Heredity, Genetics, and Society<br>BIO 1313 Human Reproduction and Development<br>BIO 1315 Introduction to Biotechnology and Molecular Biology<br>BIO 1320 Environmental Biology<br>BIO 1331 General Microbiology<br>BIO 1340 Human Biology Disease |

***For non-majors, pre-majors, and majors that would like to explore science questions from a broad and possibly interdisciplinary context, you may have an interest in the following liberal learning seminars***

### Liberal Learning Seminar Options

LLS 1300-05 Science of Addiction
LLS 1300-06 Life on Two Wheels
LLS 1300-07 Scientific Visualization
LLS 1300-09 AIDS in Society
LLS 1300-15 Why Animals Do It?
LLS 1300-17 Motion Capture for Art, Research, and Health Sciences
LLS 1300-20 Research in Real Life

***Below are GE Biological Sciences courses that fulfill various curricular themes and could be taken by non-majors, pre-majors, and majors to meet those specific requirements or interest. However, none of the following courses are required for the major.***

| Curricular Theme | Courses |
|---|---|
| **Healthy Living** | BIO 1313 Human Reproduction and Development<br>BIO 1340 Human Biology and Disease |
| **Moral and Ethical Reasoning** | BIO 1303 Scientific Ethics |

### Other Course Recommendations to Consider (not required):

CHE/BIO 1325 Introduction to Scientific Research – Course highly recommended for those that would like an introduction to scientific research.

CLS 2102 Medical Terminology – Course highly recommended for students preparing for MCAT