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| **2021-2022** | **Bachelor of Science (B.S.) Degree – Biology Major Name:** **ID:**  |
| **Courses in BOLD are required by this major****Courses in regular type are to fulfill essential education requirements and DO NOT have to be taken the specific semester stated. Four of these must be theme-based courses from your chosen Essential Education Curriculum theme.*****Courses in ITALIC are strongly recommended*****+Denotes courses offered only every other year.****EE=Essential Education** **ALSO REQUIRED FOR GRADUATION*** **120 credit hours**
* **39 Upper division credits**
* **2.00 GPA**
* **Completion of all major & essential education requirements**

**Updated:****06/10/2021** |
| **First Year Fall** | **EE****Learning Outcome** | **Sem. Hours** | **Date Met** | **First Year Spring** | **EE****Learning Outcome** | **Sem. Hours** | **Date Met** |
| **BIOL1500 Fund of Ecol & Evol** |  | **3** |  | **BIOL1520 Fund of Org. Biology** |  | **4** |  |
| ENGL1100 Discourse I ORHONR1010 Honors 101 | LO 1 (a) | **3** |  | Essential Education Elective       |       | 3 |  |
| **CHEM1430/1431 Prin. Chem. I w/lab** |  | **4** |  | **CHEM1440/1441 Prin. Chem. II w/lab** |       | **4** |  |
| **\*MATH1510 Calculus I or MATH1280 College Algebra** | LO 6 (b) | 3 |  | Global Learning Elective | LO 4 | 3 |  |
| INTD1100 Critical Thinking in Arts & Sciences | LO 2 | 3 |  |  |  |  |  |
| **Total Hours** |  |  |  | **Total Hours** |  |  |  |
| **Notes: Over the summer -find job shawdowing oportunties. Next year, think about student leadership positions, or joining a club or organization on campus (Science club, etc.). SIghn up for GU4U -** [**https://my.graceland.edu/ICS/Alumni\_and\_Friends/GU4U/**](https://my.graceland.edu/ICS/Alumni_and_Friends/GU4U/) |
| **Second Year Fall** | **EE****Learning Outcome** | **Sem.****Hours** | **Date Met** | **Second Year Spring** | **EE****Learning Outcome** | **Sem. Hours** | **Date Met** |
| Bio elective (BIOL2440 Plant Biology or BIOL2430 Animal Biology) orEssential Education Elective |  | **3-4** |  | **BIOL2100 Fund of Cell Bio & Gen** |  | **4** |  |
| **CHEM3410/3411 Org Chem I w/lab** |  | **4** |  | **CHEM3420/3421 Org Chem II w/lab** |  | **4** |  |
| **PHYS1410 Elements of Physics I w/lab** |  | **4** |  | **PHYS1420 Elements of Physics II w/lab**  |       | **4** |  |
| ENGL2100 Discourse II ORHONR2010 Honors 201 | LO 1 (b) | **3** |  | Ethical Thinking and Action Elective | LO 3 | **3** |  |
| **Total Hours** |  |  |  | **Total Hours** |  |  |  |
| **Notes: Research and apply for an internship fall of the Junior year to be completed over the summer! Connect with your faculty advisor for assistance with navigating this process. Also check in with faculty regarding any standardized tests/requirements for grad school.** |
| **Third Year Fall*****(check your degree audit!)*** | **EE****Learning Outcome** | **Sem.****Hours** | **Date Met** | **Third Year Spring** | **EE****Learning Outcome** | **Sem. Hours** | **Date Met** |
| **Biology elective\*\*** or Essential Education Elective       |       | **3 - 4** |  | Upper division Essential Education Elective      |       | **3** |  |
|  **Biology elective\*\***  |  | **3-4** |  |  **2-3 Biology electives\*\***  |  | **6-12** |  |
| ENGL3100 Discourse III  | LO 1 (c) | 3 |  |  Upper division Essential Education elective      |       | 3 |  |
| **\*MATH1380 Introduction to Statistics** | LO 6 (b) | **3** |  |  |  |  |  |
| **Total Hours** |  |  |  | **Total Hours** |  |  |  |
| **Notes: Choose biology electives in subjects you are interested for your senior research project. Connect with your faculty advisor in the fall of the senior year to learn more about graduate school application and for additional guidance with any required standardized test for professional school. Many schools require applications to be completed early in the year.** |
| **Fourth Year Fall*****(apply for graduation!)*** | **EE****Learning Outcome** | **Sem.****Hours** | **Date Met** | **Fourth Year Spring** | **EE****Learning Outcome** | **Sem. Hours** | **Date Met** |
| **BIOL4110 Biology Seminar** |  | **1** |  | **BIOL/CHEM4130 Research II** |  | **1** |  |
| **BIOL/CHEM4120 Research I** |  | **1** |  | Upper division Essential Education Elective       | **LO (c)** | 3 |  |
| **Biology Elective\*\***  |  | **3 - 4** |  | *Strongly recommended biology course\*\*\** |  | 3 - 4 |  |
|  Upper division Essential Education Elective       | LO 5 (a) | 3 |  | Upper division Essential Education Elective       | **LO (d)** | 3 |  |
| Upper division Essential Education Elective | LO (b) | 3 |  | *Strongly recommended biology course\*\*\** |  | 3 - 4 |  |
|  *Strongly recommended biology course\*\*\** |  | *3 - 4* |  |  |
| **Total Hours** |  |  |  | **Total Hours** |  |  |  |
| **Notes: Only 7 Essential Education courses are required for graduation. It is recommended that you take Biology electives\*\* or strongly recommended biology courses\*\*\* when possible.**  |
| \***Two math courses are required:** MATH1380 **and** *MATH1510 or MATH1280* \*\* Choose five of the following courses with at least one in each of the three areas (17-20 s.h.) **AREA 1**: BIOL2360, 2430, 2440, 3400/3401 **AREA 2**: BIOL3310, 3500, 4310, 4450, 4460 **AREA 3**: BIOL3420, 3440, 4400 \*\*\*For students planning to attend professional or graduate school, there are several strongly recommended bio courses: **Professional School Recommendations:** ATHT2500, BIOL2360, 3120, 3310, 3420, 3440, 3500, 4310, 4450 **Graduate School Recommendations:** BIO3120, 3 BIOL electives (depending on field of interest) **Please meet with your faculty advisor to discuss these recommended courses.****DISCLAIMER: These plans are to be used as guides only and are subject to changes in curriculum requirements. Refer to your Graceland Catalog for complete and accurate information. Some courses listed on the plans may have prerequisites that have not been stated. The student has the ultimate responsibility for scheduling and meeting the graduation requirements.** |