|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Bachelor of Science (B.S.) Degree: Chemistry Major**  **Name:** **ID:** | | ***The chemistry major gives students the opportunity to study the major areas of chemistry: inorganic, organic, analytical, physical, and biochemistry. The major is designed as preparation for fields related to chemistry, such as medicine, dentistry, teaching, and law. The major will also prepare students for graduate study or careers in chemistry such as research and development, chemical engineering, organic chemistry, and toxicology.*** | | | | | | |
| **School Year:**  **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. If you choose to earn an Essential Education Theme Concentration, you must complete 4 theme-based courses from one of the Essential Education themes.**  ***Courses in ITALIC are strongly recommended***  **ALSO REQUIRED FOR GRADUATION**   * **120 credit hours** * **39 Upper division credits** * **2.00 GPA** * **Completion of all major & essential ed requirements** |
| **First Year Fall**  ***(consider a May Term Class)*** | **Learning Outcome** | | **Sem Hours** | **Date Met** | **First Year Spring** | **Learning Outcome** | **Sem Hours** | **Date Met** |
| **CHEM1430/1431 Prin. of Chem I w/lab** |  | | **4** |  | **CHEM1440/1441 Prin. Chem. II w/lab** |  | **4** |  |
| ENGL1100 Discourse I OR  ENGL1440 English Honors |  | | **3** |  | **MATH1520 Calc II** |  | **4** |  |
|  |  |  |  |
| **MATH1510 Calculus I** |  | | **4** |  | Essential Ed Class |  | **3** |  |
| Essential Ed Class |  | **3** |  |
| *BIOL1500 Fundamentals of Evolution-Ecology (a Biology majors class)* |  | | **3** |  | Essential Ed Class |  | 3 |  |
| INTD1100 Critical Thinking in Arts & Sciences\* |  | | **3** |  |  |  |  |  |
| **Total Hours** |  | | **17** |  | **Total Hours** |  | **17** |  |
| **Notes:** | | | | | | | | |
| **Second Year Fall**  ***(consider a May Term Class)*** | **Learning Outcome** | | **Sem**  **Hours** | **Date Met** | **Second Year Spring** | **Learning Outcome** | **Sem Hours** | **Date Met** |
| **CHEM3410/3411 Org. Chem I /lab** |  | | **4** |  | **CHEM3420/3421 Org. Chem II w/lab** |  | **4** |  |
| **PHYS1410 Elements of Phys I w/lab** |  | | **4** |  | **PHYS1420 Elements of Phys II w/lab** |  | **4** |  |
| ENGL2100 Discourse II |  | | **3** |  | *BIOL2100 Fund. Of Cell Bio & Genetics* |  | 3 |  |
| Essential Ed Class |  | | **3** |  | Essential Ed Class |  | 3 |  |
|  |  | |  |  |  |  |  |  |
| **Total Hours** |  | | **14** |  | **Total Hours** |  | **14** |  |
| **Notes: Be sure to connect with your faculty advisor early on during the third year to discuss internship opportunities! Internships need to be approved in order to receive academic credit.** | | | | | | | | |
| **Third Year Fall**  ***(check your degree audit!)*** | **Learning Outcome** | | **Sem**  **Hours** | **Date Met** | **Third Year Spring** | **Learning Outcome** | **Sem Hours** | **Date Met** |
| **\* See Catalog for specific information**  **+ Denotes courses offered only every other year** | **+CHEM3610 Phys Chem I *(odd fall)***  *or*  **+CHEM4330 Instr. Analysis** *(even fall)* |  | | **4** |  | **+CHEM3620 Phys Chem II** *(even spring) or*  **+CHEM3300 Analit. Chem** *(odd spring)* |  | **4** |  |
| **CHEM4310 BioChemistry** |  | | **4** |  | **CHEM3110 Chem Seminar I** |  | 1 |  |
| ENGL3100 Discourse III |  | | 3 |  |  |  |  |  |
| Essential Ed Class |  | | 3 |  | *CSIT1100 Principles of Computing* |  | 3 |  |
| Elective |  | | **3** |  | Essential Ed Class |  | 3 |  |
|  | | | | | Elective |  | 3 |  |
|  |  |  |  |  |
|  | **Total Hours** |  | | **17** |  | **Total Hours** |  | **14** |  |
|  | **Notes:** | | | | | | | | |
|  |
|  | **Fourth Year Fall**  ***(apply for graduation!)*** | **Learning Outcome** | | **Sem**  **Hours** | **Date Met** | **Fourth Year Spring** | **Learning Outcome** | **Sem Hours** | **Date Met** |
|  | **+CHEM3610 Phys Chem I *(odd fall)***  *or*  **+CHEM4330 Instr. Analysis** *(even fall)* |  | | **4** |  | **+CHEM3620 Phys Chem II** *(even spring) or*  **+CHEM3300 Analit. Chem** *(odd spring)* |  | **4** |  |
|  | **CHEM4120 Research I** |  | | **1** |  | **CHEM4130 Research II** |  | **1** |  |
|  | Upper Division Elective |  | | 3 |  | **CHEM4110 Chem Seminar II** |  | **1** |  |
|  | Elective |  | | 3 |  | Upper Division Elective |  | 3 |  |
|  | Elective |  | | 3 |  | Elective |  | 3 |  |
|  |  | | | | | Elective |  | 3 |  |
|  | **Total Hours** |  | | **14** |  | **Total Hours** |  | **15** |  |
|  | **Notes:** | | | | | | | | |
| **Updated:**  **3/30/2020** |
| **\* Graduation requirement for all first time freshmen**  **\*\****These courses are strongly recommended for Chemistry B.S. majors. A math minor is also strongly recommended.*  **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.** | | | | | | | | |
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