

Catalog Year 2017-2018

BS Biochemistry

A Major Academic Plan (MAP) illustrates one way to complete a degree in a recommended number of semesters. Below is an example of an efficient and recommended plan, but actual plans will vary by individual student needs. Program requirements are based on Catalog Year. See page two for a detailed summary of Major, General Education, Elective, and university requirements.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Subject and Title** | **Cr.**  | **Min.** **Grade** | **\*GE,** **UU or UM** | **\*\*Sem. Offered** | **Prerequisite** | **Co Requisite** |
| Semester One |
| GE Objective 1: ENGL 1101 English Composition | 3 | C- | GE | F,S, Su | Appropriate placement score |  |
| GE Objective 3: MATH 1170 Calculus I | 4 | C- | GE | F,S, Su | MATH 1144 or 1147 or appropriate test score |  |
| GE Objective 5: CHEM 1111 & 1111L General Chemistry I & Lab | 5 | C- | GE | F,S, Su | MATH 1143 or 1147 or appropriate test score |  |
| GE Objective 5 : BIOL 1101 & 1101L General Biology I & Lab | 4 | C- | GE | F,S, Su | MATH 1108 or appropriate test score |  |
|  |  |  |  |  |  |  |
| Total | 16 |  |  |  |  |  |
| Semester Two |
| GE Objective 1: ENGL 1102 Critical Reading and Writing | 3 | C- | GE | F,S, Su | ENGL 1101 or equivalent |  |
| MATH 1175: Calculus II | 4 | C- |  | F,S ,Su | MATH 1175 C- |  |
| CHEM 1112 & 1112L General Chemistry II & Lab | 4 | C- |  | F,S, Su | CHEM 1111 & 1111L and MATH 1143 or 1147 or equivalent |  |
| BIOL 1102 & BIOL 1102 L General Biology II & Lab | 4 | C- |  | F,S | BIOL 1101 & Lab |  |
|  |  |  |  |  |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Three |
| BIOL 2235 & 2235L General Microbiology & Lab | 4 | C- |  | F,S | BIOL 1101, BIOL 1102, CHEM 1112 |  |
| PHYS 1111 & 1113 General Physics I & Lab**OR** PHYS 2211 & 2213 Engineering Physics I & Lab | 4 or 5 | C- |  | F F,S | MATH 1143 or 1147 or appropriate test score | MATH 1175 |
| CHEM 3301 & CHEM 3303 Organic Chemistry I & Lab | 4 | C- | UM | F | CHEM 1112 & 1112L or permission of instructor |  |
| GE Objective 2: COMM 1101 Principles of Speech | 3 |  | GE | F,S, Su |  |  |
|  |  |  |  |  |  |  |
|  Total | 15-16 |  |  |  |  |  |
| Semester Four |  |  |  |  |  |  |
| BIOL 3358 Genetics | 3 | C- | UM | F,S | BIOL 2235 or BIOL 2206 |  |
| PHYS 1112 & PHYS 1114 General Physics II & Lab**OR** PHYS 2212 & PHYS 2214 Engineering Physics II & Lab | 4 or 5 | C- |  | SFS | PHYS 1111 & PHYS 1113PHYS 2211 & PHYS 2213 |  |
| CHEM 3302 & CHEM 3304 Organic Chemistry II & Lab | 4 | C- |  | S | CHEM 3301 & CHEM 3303 |  |
| CHEM 2232 & CHEM 2234 Qualitative Analysis & Lab | 4 | C- |  | S | CHEM 1112 & Lab, MATH 1160 or MATH 1170 | CHEM 2234 or permission of instructor |
|  |  |  |  |  |  |  |
|  Total | 15- 16 |  |  |  |  |  |
| Semester Five |  |  |  |  |  |  |
| BIOL/CHEM 4445 Biochemistry I | 3 | C- | UM | F | BIOL 1101 & CHEM 3302 |  |
| CHEM 3341 Topics in Physical Chemistry **OR** CHEM 3351 Physical Chemistry | 3 | C- | UM | F | CHEM 1112 & 1112 L, PHYS 1112 or 2211, MATH 1160 or 1175**OR** CHEM 1112 & 1112 L, PHYS 2211, MATH 1175 |  |
| BIOL/CHEM elective from approved list | 4 | C- |  | F,S | See catalog |  |
| BIOL/CHEM elective from approved list | 3 | C- |  | F,S | See catalog |  |
| \*\*GE Objective (choose one course to satisfy GE Objective) | 3 |  |  | F,S,Su |  |  |
|  Total | 16 |  |  |  |  |  |
| Semester Six |  |  |  |  |  |  |
| BIOL/CHEM 4447 Biochemistry II | 3 | C- | UM | S | BIOL /CHEM 4445 |  |
| CHEM 3342 Topics in Physical Chemistry **OR** CHEM 3352 Physical Chemistry | 3 | C- | UM | S | CHEM 3341 Topics in Physical Chemistry **OR** CHEM 3351 Physical Chemistry  or permission of instructor |  |
| BIOL 4437/CHEM 4438 Experimental Biochemistry | 1 | C- | UM | F,S | BIOL 4432 or CHEM 4445 |  |
| BIOL/CHEM elective from approved list | 3 | C- |  | F,S | See catalog |  |
| \*\* GE Objective (choose one course to satisfy Ge Objectives) | 3 |  |  |  |  |  |
|  Total | 13 |  |  |  |  |  |
| Semester Seven |  |  |  |  |  |  |
| BIOL 4444 & BIOL 4444L Cell & Molecular Biology & Lab | 4 | C- | UM | F | BIOL 3358 & CHEM 3302 |  |
| BIOL/CHEM elective from approved list | 4 | C- |  | F,S | See catalog |  |
| \*\*GE Objective (choose one course to satisfy GE Objectives | 3 |  |  | F,S, Su |  |  |
| \*\*GE Objective (choose one course to satisfy GE Objectives | 3 |  |  | F,S, Su |  |  |
|  |  |  |  |  |  |  |
|  Total  | 14 |  |  |  |  |  |
| Semester Eight |   |  |  |  |  |  |
| BIOL/CHEM 4498 Seminar in Biochemistry | 1 | C- | UM | F,S |  | Senior standing or permission of instructor |
| BIOL/CHEM elective from approved list | 3 | C- |  | F,S | See catalog |  |
| BIOL/CHEM elective from approved list | 3 | C- |  | F,S | See catalog |  |
| Additional elective | 1-3 |  |  |  |  |  |
| \*\*GE Objective (choose one course to satisfy GE Objectives | 3 |  |  | F,S, Su |  |  |
| \*\*GE Objective (choose one course to satisfy GE Objectives | 3 |  |  | F, S, Su |  |  |
|  Total  | 14 -16 |  |  |  |  |  |
| \*GE=General Education Objective, UU=Upper Division University, UM= Upper Division Major\*\*See Course Schedule section of Course Policies page in the e-catalog (or input F, S, Su, etc.)  |

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| **2017-2018 Major Requirements** | **CR** | **2017-2018 GENERAL EDUCATION OBJECTIVES****Satisfy Objectives 1,2,3,4,5,6 (7 or 8) and 9** | **36 cr. min** |
| **MAJOR REQUIREMENTS** |  | 1. Written English (6 cr. min) ENGL 1101 | 3 |
| BIOL 1101 & 1101L General Biology I & Lab 4 cr counted in Obj. 5 |  |  ENGL 1102 | 3 |
| BIOL 1102 & BIOL 1102 L General Biology II & Lab | 4 | 2. Spoken English (3 cr. min) COMM 1101 | 3 |
| CHEM 1111 & 1111L General Chemistry I & Lab 5 cr counted in Obj.5 |  | 3. Mathematics (3 cr. min) MATH 1170  | 4 |
| CHEM 1112 & 1112L General Chemistry II & Lab | 4 | 4. Humanities, Fine Arts, Foreign Lang. **(2 courses; 2 categories; 6 cr. min)** |
| CHEM 3301 & CHEM 3303 Organic Chemistry I & Lab | 4 |  |  |
| BIOL 2235 & 2235L General Microbiology & Lab | 4 |  |  |
| BIOL 3358 Genetics | 3 | 5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)** |
| CHEM 3302 & CHEM 3304 Organic Chemistry II & Lab | 4 | BIOL 1101 & 1101L General Biology I & Lab | 4 |
| CHEM 2232 & CHEM 2234 Qualitative Analysis & Lab | 4 | CHEM 1111 & 1111L General Chemistry I & Lab  | 5 |
| BIOL/CHEM 4445 Biochemistry I | 3 |  |  |
| CHEM 3341 Topics in Physical Chemistry **OR** CHEM 3351 Physical Chemistry | 3 | 6. Behavioral and Social Science **(2 courses-different prefixes; 6 cr. min)** |
| BIOL/CHEM elective from approved list | 4 |  |  |
| BIOL/CHEM elective from approved list | 3 |  |  |
| BIOL/CHEM 4447 Biochemistry II | 3 | One Course from EITHER Objective 7 OR 8 **(1course; 3 cr. min)** |
| CHEM 3342 Topics in Physical Chemistry **OR** CHEM 3352 Physical Chemistry | 3 | 7. Critical Thinking |  |
| BIOL 4437/CHEM 4438 Experimental Biochemistry | 1 | 8. Information Literacy  |
| BIOL/CHEM elective from approved list | 3 | 9. Cultural Diversity **(1 course; 3 cr. min)** |
| BIOL 4444 & BIOL 4444L Cell & Molecular Biology & Lab | 4 |  |  |
| BIOL/CHEM elective from approved list | 4 | General Education Elective to reach 36 cr. min. **(if necessary)** |
| BIOL/CHEM 4498 Seminar in Biochemistry | 1 |   |  |
| BIOL/CHEM elective from approved list | 3 |  Total GE | 40 |
| BIOL/CHEM elective from approved list | 3 | GE Objectives Courses: *(Link to GE courses here)* |
| MATH 1170 Calculus 4 cr counted in Objective 3 |  |
| MATH 1175: Calculus II | 4 |  |  |
| PHYS 1111 & 1113 General Physics I & Lab**OR** PHYS 2211 & 2213 Engineering Physics I & Lab | 4/5  | **MAP Credit Summary** | **CR** |
| PHYS 1112 & PHYS 1114 General Physics II & Lab**OR** PHYS 2212 & PHYS 2214 Engineering Physics II & Lab | 4/5 | Major  | 77-79 |
|  |  | General Education  | 40 |
|  |  | Free Electives to reach 120 credits | 1- 3 |
|  |  |  TOTAL | 120 |
|  |  |  |
|  |  |
|  |  | **Graduation Requirement Minimum Credit Checklist** | **Confirmed** |
|  |  | Minimum 36 cr. General Education Objectives (15 cr. AAS) |  yes |
|  |  | Minimum 16 cr. Upper Division in Major (0 cr. Associate) |  | yes |
|  |  | Minimum 36 cr. Upper Division Overall (0 cr. Associate) |  | yes |
|  |  | Minimum of 120 cr. Total (60 cr. Associate) |  | yes |
|  |  |  |  |
| **Advising Notes** | ***MAP Completion Status (for internal use only)*** |
| **All major courses must be passed with a C- or better.** |  | *Date* |
|  | *Department:*  | 4/27/2017 Rene Rodriguez |
|  | *CAA or COT:* | 4/26/2017 SF |
|  | *Registrar:*  |  |
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Revised: 2.13.2017