

A Major Academic Plan (MAP) is one way to complete a degree in a set number of semesters. The *example* below is an efficient strategy only. Actual plans for individual students will vary based on advisor recommendations and academic needs. Official Program Requirements including Major, General Education, Elective, and university requirements (see pg.2) are based on Catalog Year.

**Catalog Year 2018-2019**

B.A., Chemistry

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course Subject and Title** | **Cr.**  | **Min.** **Grade** | **\*GE,** **UU, 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: Either MATH 1160 Applied Calculus  | 3  |  |  |  | MATH 1143 or 1147 or appropriate test score |  |
|  **OR**  1170 Calculus I | or 4 | C- | GE | F,S, Su | MATH 1144 or 1147 or appropriate test score |  |
| GE Objective 5: CHEM 1111 & 1111L Gen Chemistry I & Lab | 5 | C- | GE | F,S, Su | MATH 1143 or 1147 or appropriate test score |  |
| GE Objective 4: | 3 |  | GE | F,S, Su |  |  |
| Free Electives | 0 - 1 |  |  |  |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Two |
| GE Objective 1: ENGL 1102 Critical Reading and Writing | 3 | C- | GE | F,S, Su | ENGL 1101 or equivalent |  |
| CHEM 1112 & 1112L General Chemistry II & Lab | 4 | C- |  | F,S, Su | CHEM 1111 & 1111L & MATH 1143 or 1147/ equivalent |  |
| GE Objective 5: BIOL 1101 & 1101L Biology I & Lab | 4 |  | GE |  |  |  |
| Free Electives  | 4 |  |  | F,S, Su | MATH 1108 |  |
|  Total | 15 |  |  |  |  |  |
| Semester Three |
| GE Objective 2: COMM 1101 Principles of Speech | 3 |  | GE | F,S,S u |  |  |
| Either PHYS 1111 & 1113 Gen Physics I & Lab**OR** PHYS 2211 & 2213 Engineering Physics I & Lab | 4 or 5 |  | GE | F F,S | MATH 1143 or 1147 or appropriate test scoreMATH 1175 | MATH 1175 |
| CHEM 3301 & CHEM 3303 Organic Chemistry I & Lab | 4 | C- | UM | F | CHEM 1112 & 1112L or permission of instructor |  |
| GE Objective 4: | 3 |  | GE | F,S, Su |  |  |
| Free Electives | 0 or 1 |  |  |  |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Four |  |  |  |  |  |  |
| GE Objective 7 or 8:  | 3 |  | GE |  |  |  |
| Either PHYS 1112 & PHYS 1114 General Physics II & LabOR PHYS 2212 & PHYS 2214 Engineering Physics II & Lab | 4or 5 |  |  | SF,S | PHYS 1111 & PHYS 1113Or PHYS 2211 & PHYS 2213 |  |
| CHEM 3302 & CHEM 3304 Organic Chemistry II & Lab | 4 | C- | UM | S | CHEM 3301 & CHEM 3303 |  |
| CHEM 2232 & CHEM 2234 Qualitative Analysis & Lab | 4 |  |  | S | CHEM 1112 & Lab, MATH 1160 or MATH 1170 |  |
| Free Electives | 0 or 1 |  |  |  |  |  |
|  Total | 16 |  |  |  |  |  |
| Semester Five |  |  |  |  |  |  |
| Either BIOL 4432 Biochemistry OR CHEM/BIOL 4445 Biochemistry I | 3 |  | UM |  | BIOL 1101 & 1101L and CHEM 3301BIOL 1101 and 1101L and CHEM 3302 |  |
| Either CHEM 3341 Topics in Physical ChemistryOr CHEM 3351 Physical Chemistry  | 3 |  | UM |  | CHEM 1112 & 1112L, MATH 1160 or 1170, PHYS 1112 or 2212 CHEM 1112 & 1112L, MATH 1175, PHYS 1112 or 2212  |  |
| CHEM 2211 & CHEM 2213 Inorganic Chemistry I & Lab | 4 |  |  | F | CHEM 3301 or permission of instructor |  |
| Upper Division CHEM elective | 3 |  | UM | F |  |  |
| GE Objective 6:  | 3 |  | GE | F,S, Su |  |  |
|  Total | 16 |  |  |  |  |  |
| Semester Six |  |  |  |  |  |  |
| Either CHEM 3342 Topics in Physical ChemistryOR CHEM 3352 Physical Chemistry | 3 |  | UM | SS | CHEM 3341 or permission of instructorCHEM 3351  |  |
| Upper Division CHEM Elective | 3 |  | UM | S |  |  |
| GE Objective 9: | 3 |  | GE | F, S, Su |  |  |
| Free Electives | 6 |  |  |  |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Seven |  |  |  |  |  |  |
| CHEM 3391 Seminar | 1 |  | UM | R1 | CHEM 3301, 3303 or permission of instructor |  |
| Upper division CHEM Electives | 2 |  | UM |  |  |  |
| GE Objective 6 | 3 |  | GE |  |  |  |
| Upper Division Free Electives | 7 |  | UU |  |  |  |
| Free Electives | 2 |  |  |  |  |  |
|  Total  | 15 |  |  |  |  |  |
| Semester Eight |   |  |  |  |  |  |
| Upper Division Free Electives | 3 |  | UU |  |  |  |
| Free Electives | 10 |  |  |  |  |  |
|  Total  | 13 |  |  |  |  |  |
| \*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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| **2018-2019 Major Requirements** | **CR** |  **GENERAL EDUCATION OBJECTIVES****Satisfy Objectives 1,2,3,4,5,6 (7 or 8) and 9** | **36 cr. min** |
| **MAJOR REQUIREMENTS** | **46-48** | 1. Written English (6 cr. min) ENGL 1101 | 3 |
|  |  ENGL 1102 | 3 |
| MATH 1160 App Calculus **OR**  1170 Calc I (3 or 4 cr counted in GE Objective 3) | 2. Spoken English (3 cr. min) COMM 1101 | 3 |
| BIOL 1101 & 1101L Biology I & Lab (4cr counted in GE Objective 5) | 3. Mathematics (3 cr. min) MATH 1160 or MATH 1170  | 3 or 4 |
| CHEM 1111 & 1111L General Chemistry I & Lab (5 cr counted in Objective 5) | 4. Humanities, Fine Arts, Foreign Lang. **(2 courses; 2 categories; 6 cr. min)** |
| CHEM 1112 & 1112L General Chemistry II & Lab | 4 |  |  |
| CHEM 2211 & CHEM 2213 Inorganic Chemistry I & Lab | 4 |  |  |
| CHEM 2232 & CHEM 2234 Qualitative Analysis & Lab | 4 | 5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)** |
| CHEM 3301 & CHEM 3303 Organic Chemistry I & Lab | 4 | CHEM 1111 & CHEM 1111L | 5 |
| CHEM 3302 & CHEM 3304 Organic Chemistry II & Lab | 4 | BIOL 1101 and 1101L | 4 |
| Either CHEM 3341 Topics in Physical Chemistry |  |  |  |
| OR CHEM 3351 Physical Chemistry | 3 | 6. Behavioral and Social Science **(2 courses-different prefixes; 6 cr. min)** |
| Either CHEM 3342 Topics in Physical Chemistry |  |  |  |
| OR CHEM 3352 Physical Chemistry | 3 |  |  |
| CHEM 3391 Seminar | 1 | One Course from EITHER Objective 7 OR 8 **(1course; 3 cr. min)** |
| Upper Division CHEM Electives | 8 | 7. Critical Thinking |  |
|  |  | 8. Information Literacy  |
| Either BIOL 4432 Biochemistry |  | 9. Cultural Diversity **(1 course; 3 cr. min)** |
| OR CHEM/BIOL 4445 Biochemistry I | 3 |  |  |
|  |  | General Education Elective to reach 36 cr. min. **(if necessary)** |
| Either PHYS 1111 & PHYS 1113 General Physics I & Lab  | 4 or 5 |   |  |
| OR PHYS 2211 & PHYS 22143Engineering Physics I & Lab  |  Total GE | 39 - 40 |
| Either PHYS 1112 & PHYS 1114 General Physics II & Lab |  | Undergraduate Catalog and GE Objectives by [Catalog Year](https://www.isu.edu/advising/academic-support/general-education/)  |
| OR PHYS 2212 & PHYS 2214 Engineering Physics II & Lab | 4 or 5 |
|  |  |  |  |
|  |  | **MAP Credit Summary** | **CR** |
|  |  | Major  | 46 - 48 |
|  |  | General Education  | 39 - 40 |
|  |  | Free Electives to reach 120 credits | 32 - 35 |
|  |  |  TOTAL |  |
|  |  |  |
|  |  |
|  |  | **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)*** |
| **Please consult catalog and faculty advisor for appropriate CHEM electives.** |  |  *Date* |
| Courses in chemistry, which are prerequisites for another course, must | *Department:*  | 3.26.2018 sf jh |
| be passed with a C- or better | *CAA or COT:* | 3.26.2018 sf jh |
|  | *Registrar:*  |  |
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 Form Revised 1.24.2018