

**Catalog Year 2018-2019**

**B.S. Medical Laboratory Science**

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.

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| --- | --- | --- | --- | --- | --- | --- |
| **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 |  | Appropriate placement score |  |
| GE Objective 5: BIOL 1101 & Lab Biology I | 4 |  | GE | F,S,Su | MATH 1108 | (MATH 1108) |
| GE Objective 5: CHEM 1111 & 1111L Gen Chem and lab | 5 |  | GE | F,S,Su | MATH 1143 or 1147 |  |
|  Total | 12 |  |  |  |  |  |
| Semester Two |
| GE Objective 1: ENGL 1102 Critical Reading and Writing | 3 | C- | GE | F,S,Su | ENGL 1101 or equivalent |  |
| GE Objective 6: | 3 |  | GE |  |  |  |
| BIOL 1102 & Lab Biology II | 4 |  |  | F,S | BIOL 1101 |  |
| CHEM 1112 & 1112L General Chemistry II and lab | 4 |  |  | F,S,Su | CHEM 1111, MATH 1143 or 1147 |  |
|  Total | 14 |  |  |  |  |  |
| Semester Three |
| GE Objective 7 or 8:  | 3 |  | GE |  |  |  |
| GE Objective 2: COMM 1101 Principles of Speech | 3 |  | GE | F,S,Su |  |  |
| BIOL 3301 Anatomy & Physiology and 3301Lab | 4 | C- |  | F,S | BIOL 1101 |  |
| BIOL 2206 Cell Biology | 3 | C- |  | F,S | BIOL 1101, 1102, CHEM 1111, 1112 | CHEM 1112, BIOL 2207 |
| BIOL 2207 Cell Biology Lab | 1 |  |  | F,S |  | BIOL 2206 |
|  Total | 14 |  |  |  |  |  |
| Semester Four |
| GE Objective 4 | 4 |  | GE |  |  |  |
| BIOL 2235 General Microbiology and 2235L | 4 |  |  | F,S | BIOL 1101, 1102, CHEM 1112 |  |
| BIOL 3302 Anatomy & Physiology and 3302Lab | 4 | C- | UM | F,S | BIOL 1101 |  |
| GE Objective 3: MATH 1153 Intro to Statistics | 3 | C- | GE | F,S,Su | MATH 1108 |  |
|  Total | 15 |  |  |  |  |  |
| Semester Five |
| Chemistry Electives | 7 | C- |  |  |  |  |
| Either BIOL 4463 & 4463L Human Pathophysiology  (or BIOL 3305 Introduction to Pathobiology) | 4  | C- | UM | F | BIOL 3301, 3302  |  |
| GE Objective 6: | 3 |  | GE |  |  |  |
|  Total | 14 |  |  |  |  |  |
| Semester Six |
| BIOL 3358 Genetics | 3 |  | UM | F,S | BIOL 2206 or BIOL 2235 |  |
| BIOL 4451 Immunology | 3 |  | UM | F | BIOL 2221 or BIOL 2235 |  |
| GE Objective 9: | 3 |  | GE |  |  |  |
| GE Objective 4:  | 3 |  | GE |  |  |  |
| **( Apply to MLS program by February)** |
|  Total | 12 |  |  |  |  |  |
| Semester Seven |
| MLS 4410 Phlebotomy Practicum | 1 | C- | UM | F | Acceptance to MLS program |  |
| MLS 4412 Urinalysis and Body Fluids | 1 | C- | UM | F | Acceptance to MLS program |  |
| MLS 4414 Hematology & Hemostasis | 3 | C- | UM | F | Acceptance to MLS program |  |
| MLS 4416 Medical Microbiology  | 3 | C- | UM | F | Acceptance to MLS program |  |
| MLS 4418 Medical Chemistry & Instrumentation | 3 | C- | UM | F | Acceptance to MLS program |  |
| MLS 4420 Medical Immunology | 2 | C- | UM | F | Acceptance to MLS program |  |
| MLS 4422 Basic Concepts Transfusion Medicine | 2 | C- | UM | F | Acceptance to MLS program |  |
| MLS 4424 Medical Laboratory Fundamentals | 1 | C- | UM | F | Acceptance to MLS program |  |
|  Total  | 16 |  |  |  |  |  |
| Semester Eight  |
| MLS 4431 Medical Microbiology II | 3 | C- | UM | S | Acceptance to MLS program, MLS 4416 |  |
| MLS 4433 MLS Management & Education | 2 | C- | UM | S | Acceptance to MLS program |  |
| MLS 4435 Molecular Diagnosis | 3 | C- | UM | S | Acceptance to MLS program |  |
| MLS 4437 Critical Analysis of Lab Information | 3 | C- | UM | S | Acceptance to MLS program |  |
| MLS 4439 Advanced Concepts in Transfusion Medicine | 2 | C- | UM | S | Acceptance to MLS program, MLS 4422 |  |
| MLS 4441 MLS Research (may choose to take from 1 to 3 credits) | 1 | C- | UM | S | Acceptance to MLS program |  |
| MLS 4455 MLS Student Laboratory Practices | 2 | C- | UM | S | Acceptance to MLS program |  |
|  Total  | 16 |  |  |  |  |  |
| Summer Practicums |
| MLS 4490 General Site Practicum  | 1 or 6 |   | UM | F,S,Su | Acceptance to MLS program |  |
| MLS 4491 Microbiology Practicum | 2 |  | UM | F,S,Su | Acceptance to MLS program |  |
| MLS 4492 Hematology an Urinalysis Practicum | 2 |  | UM | F,S,Su | Acceptance to MLS program |  |
| MLS 4493 Transfusion Blood Bank Practicum | 1 |  | UM | F,S,Su | Acceptance to MLS program |  |
| MLS 4494 Chemistry and Automation Practicum | 1 |  | UM | F,S,Su | Acceptance to MLS program |  |
| Total | 7 or 12 |  |  |  |  |  |
| \*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** | **79-86** | 1. Written English (6 cr. min) ENGL 1101 | 3 |
|  |  |  ENGL 1102 | 3 |
| **Program Required Pre-Requisite Courses:** | **21** | 2. Spoken English (3 cr. min) COMM 1101 | 3 |
| BIOL 2206/BIOL 2207 Cell Biology and Lab | 4 | 3. Mathematics (3 cr. min) MATH 1153 | 3 |
| BIOL 2235/BIOL 2235L General Microbiology and Lab | 4 | 4. Humanities, Fine Arts, Foreign Lang. **(2 courses; 2 categories; 6 cr. min)** |
| BIOL 3301/BIOL 3301L Anatomy and Physiology and Lab | 4 |  |  |
| BIOL 3358 Genetics | 3 |  |  |
| BIOL 4451 Immunology | 3 | 5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)** |
| Either BIOL 4463 Human Pathophysiology  | 3 | BIOL 1101/1101L | 4 |
|  (or BIOL 3305 Introduction to Pathobiology 4 cr) |  | CHEM 1111 and 1111L | 5 |
| **Other Required and Pre-Requisite Courses** | **19** |  |  |
| BIOL 1101 and Lab Biology I and Lab (Counted in GE Obj. 5) | 6. Behavioral and Social Science **(2 courses-different prefixes; 6 cr. min)** |
| CHEM 1111 General Chemistry I and 1111L (Counted in GE Obj. 5) |  |  |
| BIOL 1102/BIOL 1102L Biology II | 4 |  |  |
| CHEM 1112/CHEM 1112L General Chemistry II | 4 | One Course from EITHER Objective 7 OR 8 **(1course; 3 cr. min)** |
| BIOL 3302/BIOL 3302L Anatomy and Physiology and Lab | 4 | 7. Critical Thinking |  |
| Additional Chemistry Courses to reach 16 credits  |  7 | 8. Information Literacy  |
| MATH 1153 Introduction to Statistics (counted in GE Obj. 3) | 9. Cultural Diversity **(1 course; 3 cr. min)** |
|  |  |  |  |
| **Professional Degree Requirements** | **32-34** | General Education Elective to reach 36 cr. min. **(if necessary)** |
| MLS 4410 Phlebotomy Practicum | 1 |   |  |
| MLS 4412 Urinalysis and Body Fluids | 1 |  **Total GE** |  |
| MLS 4414 Hematology & Hemostasis | 3 | Undergraduate Catalog and GE Objectives by [Catalog Year](https://www.isu.edu/advising/academic-support/general-education/)  |
| MLS 4416 Medical Microbiology | 3 |
| MLS 4418 Medical Chemistry & Instrumentation | 3 |  |
| MLS 4420 Medical Immunology | 2 |
| MLS 4422 Basic Concepts Transfusion Medicine | 2 |
| MLS 4424 Medical Laboratory Fundamentals | 1 | **MAP Credit Summary** | **CR** |
| MLS 4431 Medical Microbiology II | 3 | Major  |  |
| MLS 4433 Medical Lab Science Management & Education | 2 | General Education  |  |
| MLS 4435 Molecular Diagnosis | 3 | Free Electives to reach 120 credits |  |
| MLS 4437 Critical Analysis of Lab Information | 3 |  TOTAL |  |
| MLS 4439 Advanced Concepts in Transfusion Medicine | 2 |  |
| MLS 4441 MLS Research | 1-3 |
| MLS 4455 MLS Student Laboratory Practices | 2 |
|  |  |
| **Required Practicum Experience** | **7 or 12** | **Graduation Requirement Minimum Credit Checklist** | **Confirmed** |
| MLS 4490 General Site Practicum | 1 or 6 | Minimum 36 cr. General Education Objectives (15 cr. AAS) |  |
| MLS 4491 Microbiology Practicum | 2 | Minimum 16 cr. Upper Division in Major (0 cr. Associate) |  |  |
| MLS 4492 Hematology and Urinalysis Practicum | 2 | Minimum 36 cr. Upper Division Overall (0 cr. Associate) |  |  |
| MLS 4493 Transfusion Blood Bank Practicum | 1 | Minimum of 120 cr. Total (60 cr. Associate) |  |  |
| MLS 4494 Chemistry and Automation Practicum | 1 |  |  |
| **Advising Notes** | ***MAP Completion Status (for internal use only)*** |
|  |  | *Date* |
| **MLS 4490 – 1 credit is required for the BS in MLS but 6 credits are**  | *Department:*  | 6.11.2018 rh |
| **required to be eligible for the Board of Certification.** | *CAA or COT:* | 6.8.2018 jh |
|  | *Registrar:*  |  |
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 Form Revised 1.24.2018