

# THE UNIVERSITY OF RHODE ISLAND

## Medical Laboratory Science - BS

### EL\_CLSC\_BS

120 Earned Credits Total

Student: \_\_\_\_\_

Student ID: \_\_\_\_\_

Advisor: \_\_\_\_\_

### **ABOUT THE BS in MEDICAL LABORATORY SCIENCE:**

The Medical Laboratory Science major is concerned with the diagnosis, treatment, and prevention of disease using analytical methods in the clinical laboratory. The clinical program includes lecture and laboratory instruction in clinical chemistry, clinical microbiology, hematology, immunology, immunohematology and molecular pathology, and prepares the student for the national certification examinations and state licensure. [web.uri.edu/cmb/medical-laboratory-science](http://web.uri.edu/cmb/medical-laboratory-science).

### **Step 1: REVIEW YOUR PROGRAM REQUIREMENTS**

#### **INTRODUCTION Requirement: (2 credits)**

| Course  | Semester | Credits | Grade |
|---------|----------|---------|-------|
| MLS 102 | Spring   | 1       |       |
| URI 101 |          | 1       |       |

#### **BIOLOGY Requirement: (16 credits)**

| Course   | Semester | Credits | Grade |
|----------|----------|---------|-------|
| *BIO 101 |          | 3       |       |
| *BIO 103 |          | 1       |       |
| *BIO 102 |          | 3       |       |
| *BIO 104 |          | 1       |       |
| BIO 220  |          | 3       |       |
| BIO 221  |          | 1       |       |
| BIO 222  |          | 3       |       |
| BIO 223  |          | 1       |       |

#### **CHEMISTRY Requirement: (16 credits)**

| Course   | Semester | Credits | Grade |
|----------|----------|---------|-------|
| CHM *101 |          | 3       |       |
| CHM 102  |          | 1       |       |
| CHM 112  |          | 3       |       |
| CHM 114  |          | 1       |       |
| CHM 227  |          | 3       |       |
| CHM 228  |          | 3       |       |
| CHM 226  |          | 2       |       |

#### **MATH Requirement: (3-4 credits)**

Pick 1 of the following:

| Course    | Semester | Credits | Grade |
|-----------|----------|---------|-------|
| *MTH 111  |          | 3       |       |
| <b>OR</b> |          |         |       |
| *MTH 131  |          | 3       |       |
| <b>OR</b> |          |         |       |
| *MTH 141  |          | 4       |       |

#### **PHYSICS Requirement: (4 credits)**

| Course   | Semester | Credits | Grade |
|----------|----------|---------|-------|
| *PHY 111 |          | 3       |       |
| *PHY 185 |          | 1       |       |

**\*\*Important Note:** The senior year clinical internship (MLS 405-451) has limited placements and acceptance is competitive. Application to the MLS admissions committee occurs at the beginning of the junior year; a minimum overall GPA and math/science GPA of  $\geq 2.5$  is required to be considered for the application process. The actual minimal GPA required for acceptance may be higher than 2.5; it is dependent upon the number of applicants and the number of internship placements. Students who do not meet the minimum 2.5 requirement to apply, or who are not accepted into the internship are advised to meet with an academic or professional advisor to determine a new course of study.

#### **CMB and MLS CONCENTRATION COURSES (16 credits)**

| Course                     | Semester | Credits | Grade |
|----------------------------|----------|---------|-------|
| CMB 201 (preferred) or 211 |          | 3       |       |
| CMB 311                    |          | 3       |       |
| CMB 333                    | Fall     | 3       |       |
| CMB 432                    | Spring   | 3       |       |
| *MLS 483                   | Fall     | 3       |       |

#### **\*\*MLS CLINICAL INTERNSHIP COURSES (32 credits)**

| Course  | Semester | Credits | Grade |
|---------|----------|---------|-------|
| MLS 405 | Fall     | 2       |       |
| MLS 409 | Fall     | 4       |       |
| MLS 411 | Fall     | 4       |       |
| MLS 413 | Fall     | 2       |       |
| MLS 415 | Fall     | 3       |       |
| MLS 451 | Fall     | 2       |       |
| MLS 406 | Spring   | 2       |       |
| MLS 410 | Spring   | 4       |       |
| MLS 412 | Spring   | 4       |       |
| MLS 414 | Spring   | 2       |       |
| MLS 416 | Spring   | 3       |       |

#### **FREE ELECTIVES:**

| Course | Semester | Credits | Grade |
|--------|----------|---------|-------|
|        |          |         |       |
|        |          |         |       |
|        |          |         |       |
|        |          |         |       |
|        |          |         |       |
|        |          |         |       |
|        |          |         |       |
|        |          |         |       |
|        |          |         |       |

\*Course approved for general education.

**THE UNIVERSITY OF RHODE ISLAND**

**Medical Laboratory Science - B.S.**

120 Earned Credits Total

Student:

Student ID: \_\_\_\_\_

Advisor: \_\_\_\_\_

### General Education Guidelines:

General education is 40 credits. Each of the twelve outcomes (A1-D1) must be met by at least 3 credits. A single course may meet more than one outcome, but cannot be double counted towards the 40 credit total. At least one course must be a Grand Challenge (G). No more than twelve credits can have the same course code. General education courses may also be used to meet requirements of the major or minor when appropriate.

**LIST COURSES THAT MEET GENERAL EDUCATION:**

| General Education Credit Count  |         |       |  |                      |         |       |
|---|---------|-------|--|----------------------|---------|-------|
| At least 40 credits, no more than 12 credits<br>with the same course code |         |       |  |                      |         |       |
| Course  | Credits | Grade |  | Course               | Credits | Grade |
| *BIO 101  | 3       |       |  |                      |         |       |
| *BIO 103  | 1       |       |  |                      |         |       |
| *BIO 102  | 3       |       |  |                      |         |       |
| *BIO 104  | 1       |       |  |                      |         |       |
| *CHM 101  | 3       |       |  |                      |         |       |
| *MTH _____  |         |       |  |                      |         |       |
| *PHY 111  | 3       |       |  |                      |         |       |
| *PHY 185  | 1       |       |  |                      |         |       |
| *MLS 483  | 3       |       |  |                      |         |       |
|   |         |       |  |                      |         |       |
|   |         |       |  |                      |         |       |
|   |         |       |  |                      |         |       |
|   |         |       |  |                      |         |       |
|   |         |       |  |                      |         |       |
|   |         |       |  |                      |         |       |
|   |         |       |  | Total Gen Ed Credits |         |       |

**NOTE: BECAUSE MOST COURSES MEET MORE THAN ONE OUTCOME, YOUR OUTCOME AUDIT MIGHT BE COMPLETED BEFORE YOU REACH YOUR 40 CREDITS. HOWEVER, YOU MUST STILL COMPLETE 40 CREDITS OF GENERAL EDUCATION**

**\*course fulfills general education and a major requirement**

**LIST COURSE AS EACH OUTCOME IS MET:**

| General Education Outcome Audit  |            |
|--|------------|
|  | Course     |
| <b>KNOWLEDGE</b>   |            |
| <b>A1. STEM</b>  | *BIO 101   |
| <b>A2. Social &amp; Behavioral Sciences</b>                                |            |
| <b>A3. Humanities</b>  |            |
| <b>A4. Arts &amp; Design</b>   |            |
| <b>COMPETENCIES</b>  |            |
| <b>B1. Write effectively</b>   |            |
| <b>B2. Communicate effectively</b>   |            |
| <b>B3. Mathematical, statistical, or computational strategies</b>          | *MTH _____ |
| <b>B4. Information literacy</b>  |            |
| <b>RESPONSIBILITIES</b>  |            |
| <b>C1. Civic knowledge &amp; responsibilities</b>                          |            |
| <b>C2. Global responsibilities</b>   |            |
| <b>C3. Diversity &amp; Inclusion</b>                                       |            |
| <b>INTEGRATE &amp; APPLY</b>   |            |
| <b>D1. Ability to synthesize</b>   | *MLS 483   |
| <b>GRAND CHALLENGE</b>   |            |
| <b>G. At least one course of your 40 credits is an approved "G" course</b> |            |

**The requirement for transfer to CELS out of University College for Academic Success:**

Minimum 24 credits and cumulative 2.0 GPA.

**Advising Notes:**

**Minimum 2.0 cumulative GPA required in major and graduation.**

Effective 2019-2020

**B.S. Medical Laboratory Science  
Sample 4 Year Plan - Effective Fall 2019  
College of The Environment and Life Sciences**

**Freshman Year *Fall* Semester**

| Course Code     | Description                       | Cr           | Cum Cr       |
|-----------------|-----------------------------------|--------------|--------------|
| URI 101         | Planning for Academic Success     | 1            |              |
| *BIO 101/103    | Principles of Biology I/Lab       | 4            |              |
| *CHM 101/102    | General Chemistry I/Lab           | 4            |              |
| *MTH 111 OR 131 | Precalculus or Applied Calculus I | 3            |              |
|                 | *General Education Course         | 3-4          |              |
|                 |                                   | <b>14-15</b> | <b>14-15</b> |

**Freshman Year *Spring* Semester**

| Course Code  | Description                  | Cr           | Cum Cr       |
|--------------|------------------------------|--------------|--------------|
| *BIO 102/104 | Principles of Biology II/Lab | 4            |              |
| *CHM 112/114 | General Chemistry II/Lab     | 4            |              |
| MLS 102      | Intro to Clinical Lab Sci    | 1            |              |
|              | *General Education Course    | 3-4          |              |
|              |                              | <b>15-18</b> | <b>29-33</b> |

**Year 1 Milestones:** Complete **BIO** 101, 103, 102, 104, **CHM** 112, 114, and **MTH** 111 OR 131. Earn 30 credits with a cumulative GPA of 2.0 or higher.

**Sophomore Year *Fall* Semester**

| Course Code  | Description                        | Cr           | Cum Cr       |
|--------------|------------------------------------|--------------|--------------|
| BIO 220/221  | Anatomy & Physiology I lecture/lab | 4            |              |
| CHM 227      | Organic Chemistry I                | 3            |              |
| *PHY 111/185 | General Physics I, Lab             | 4            |              |
|              | *General Education Course          | 3-4          |              |
|              |                                    | <b>14-15</b> | <b>43-48</b> |

**Sophomore Year *Spring* Semester**

| Course Code     | Description   | Cr           | Cum Cr       |
|-----------------|---|--------------|--------------|
| BIO 222/223     | Anatomy & Physiology II lecture/lab                           | 4            |              |
| CHM 226         | Organic Chemistry Lab   | 2            |              |
| CHM 228         | Organic Chemistry II  | 3            |              |
| CMB 201 OR *211 | Introductory Medical Microbiology OR Integrative Microbiology | 4            |              |
|                 | *General Education Course                                     | 3-4          |              |
|                 |   | <b>15-16</b> | <b>58-64</b> |

**Year 2 Milestones:** Complete **CMB** 201 OR 211, **BIO** 220/221, 222/223 **CHM** 227, 228, 226. Meet with a MLS Faculty advisor to discuss research/internship opportunities and plan year 3 and 4 courses. Earn 60 total credits with a cumulative GPA of 2.0 or higher.

**Junior Year *Fall* Semester**

| Course Code | Description                   | Cr           | Cum Cr       |
|-------------|-------------------------------|--------------|--------------|
| CMB 333     | Immunology & Serology         | 3            |              |
| MLS 483     | Intro Diagnostic Microbiology | 3            |              |
|             | *General Education Course     | 3-4          |              |
|             | *General Education Course     | 3-4          |              |
|             | *General Education Course     | 3-4          |              |
|             |                               | <b>15-19</b> | <b>73-83</b> |

**Junior Year *Spring* Semester**

| Course Code | Description                    | Cr           | Cum Cr        |
|-------------|--------------------------------|--------------|---------------|
| CMB 432     | Pathogenic Bacteriology        | 3            |               |
| CMB 311     | Introductory Biochemistry      | 3            |               |
|             | *General Education or Elective | 3-4          |               |
|             | *General Education or Elective | 3-4          |               |
|             | *General Education or Elective | 3-4          |               |
|             |                                | <b>15-19</b> | <b>88-102</b> |

**Year 3 Milestones:** Complete **PHY** 111, 185, **CMB** 333, 311, 432, **MLS** 483. Apply for placement in the clinical internship during the fall semester. Meet with a MLS Faculty advisor to plan year 4 courses. Earn 90 total credits with a cumulative GPA of 2.0 or higher. Prepare intent to graduate with faculty advisor for Fall submission.

**Senior Year *Fall* Semester**

| Course Code | Description                     | Cr        | Cum Cr         |
|-------------|---------------------------------|-----------|----------------|
| MLS 405     | Molecular Pathology             | 2         |                |
| MLS 409     | Clinical Microbiology I         | 4         |                |
| MLS 411     | Clinical Chemistry I            | 4         |                |
| MLS 413     | Immunohematology I              | 2         |                |
| MLS 415     | Hematology I                    | 3         |                |
| MLS 451     | Prof Topics in Clin Lab Science | 2         |                |
|             |                                 | <b>17</b> | <b>105-119</b> |

**Senior Year *Spring* Semester**

| Course Code | Description              | Cr        | Cum Cr         |
|-------------|--------------------------|-----------|----------------|
| MLS 406     | Clinical Immunology      | 2         |                |
| MLS 410     | Clinical Microbiology II | 4         |                |
| MLS 412     | Clinical Chemistry II    | 4         |                |
| MLS 414     | Immunohematology II      | 2         |                |
| MLS 416     | Hematology II            | 3         |                |
|             |                          | <b>15</b> | <b>120-134</b> |

**Year 4 Milestones:** Complete **MLS** internship. Earn total 120 credits with a cumulative GPA of 2.0 or higher. Minimum 2.0 cumulative GPA in CMB/MLS concentration courses.