

**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		1	
URI 101		1	

**BIOLOGY Requirement: (15 credits)**

Course	Semester	Credits	Grade
*BIO 101		3	
*BIO 102		3	
*BIO 103		1	
*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 226		2	
CHM 227		3	
CHM 228		3	

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

Pick 1 of the following:

Course	Semester	Credits	Grade
*MTH 111		3	
OR			
*MTH 131		3	
OR			
*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 and math/science GPA of 2.5 or better 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 change their major to Cell and Molecular Biology/Microbiology option. This degree may be completed in the same time period as MLS.

**CMB and MLS CONCENTRATION COURSES (15 credits)**

Course	Semester	Credits	Grade
CMB 211		3	
CMB 311		3	
CMB 333		3	
CMB 432		3	
MLS 483		3	

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

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

**FREE ELECTIVES:**

Course	Semester	Credits	Grade

\*Course approved for general education.

### 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 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					
	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>	
<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 for graduation.**

**B.S. Medical Laboratory Science**  
**Sample 4 Year Plan - Effective Fall 2018**      **College of**  
**The Environment and Life Sciences**

**Freshman Year Fall Semester**

Course Code	Description	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>0</b>

**Freshman Year Spring Semester**

Course Code	Description	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>0</b>

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

**Sophomore Year Fall Semester**

Course Code	Description	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>0</b>

**Sophomore Year Spring Semester**

Course Code	Description	Cr	
BIO 222/223	Anatomy & Physiology II lecture/lab	4	
CHM 226	Organic Chemistry Lab	2	
CHM 228	Organic Chemistry II	3	
CMB 211	Introductory Microbiology	4	
	*General Education Course	3-4	
		<b>15-16</b>	<b>0</b>

**Year 2 Milestones:** Complete **CMB** 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	
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>0</b>

**Junior Year Spring Semester**

Course Code	Description	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>0</b>

**Year 3 Milestones:** Complete **PHY** 111, 185, **CMB/BIO** 333, 311, 432, **MLS** 483. 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	
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>0</b>

**Senior Year Spring Semester**

Course Code	Description	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>0</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.