MEDICAL LABORATORY SCIENCE
College of the Environment & Life Sciences (CELS)

Department: Cell and Molecular Biology, 874-2201, www.uri.cels/cmb
UC Advisor: Dr. Gregory Paquette, gregcls@uri.edu, 874-2315
Credits: 120

The Major: 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.

Career Options: Job availability for Medical Laboratory Science graduates is usually extensive, and it is increasing. A recent report issued by the United States Department of Labor indicates an increasing demand for professionals in all areas of health care, including medical laboratory science. Graduates of the program have an opportunity for careers in clinical practice, laboratory supervision and management, health regulatory agencies, sales and technical representation for scientific equipment companies, research, and education.

Transfer out of UC: Must have completed at least 24 credits, minimum GPA of 2.00, and received permission from the UC major advisor.

General Education (27 credits):
All Category MQ (Mathematical & Quantitative Reasoning) and N (Natural Sciences) General Education requirements (11 cr.) are satisfied by courses taken as part of the major. Thus, to satisfy URI’s General Education requirements, CMB students should take COM 100, WRT 104/105 or 106, 6 cr. in Category S (Social Sciences), and only 15 credits of General Education courses from Category A (Fine Arts & Literature), L (Letters), or F (Foreign Language/Culture). See the URI Course Catalog (also on the web at http://www.uri.edu/catalog/catalog.html/index.html) for a listing of all General Education courses.

Introductory Professional Courses (5 credits):
MLS102 Introduction to Medical Laboratory Science
MIC 211 or 201 Introductory Microbiology

Basic Sciences (41 credits)*:
BIO 101 Principles of Biology I
BIO 102 Principles of Biology II
CHM 101, 102 General Chemistry I, Lab
CHM 111 Precalculus, MTH131 Applied Calculus or MTH 141 Calculus
PHY 111, 185 General Physics I, Lab
BIO 121 Human Anatomy
BIO 242 Introductory Human Physiology
CHM 112, 114 General Chemistry II, Lab
CHM 226 Organic Chemistry Lab
CHM 227 Organic Chemistry I
CHM 228 Organic Chemistry II
BCH 311 Introductory Biochemistry
(*8 credits apply to N category & 3 credits apply to MQ)

* For more information about the major contact the CBM University College advisor listed above.
**Concentration (40 credits):**
- MIC 333 Immunology and Serology
- MIC 432 Pathogenic Bacteriology
- MLS 483 Diagnostic Microbiology

**Clinical Internship (32 credits):**
- MLS 405 Molecular Pathology
- MLS 406 Clinical Immunology
- MLS 409 Clinical Microbiology I
- MLS 410 Clinical Microbiology II
- MLS 411 Clinical Chemistry I
- MLS 412 Clinical Chemistry II
- MLS 413 Immunohematology I
- MLS 414 Immunohematology II
- MLS 415 Hematology I
- MLS 416 Hematology II
- MLS 451 Professional Topics

**Free Electives (7 credits)**
You may take 7 credits of your choice.

---

*For more information about the major contact the CMB University College advisor listed above.*
**MEDICAL LABORATORY SCIENCE, 120 CREDITS**  
*Biotechnology Manufacturing Option*  
*College of the Environment & Life Sciences (CELS)*  
*Department of Cell & Molecular Biology*

**STUDENT__________________________  ADVISOR__________________________**

**General Education (27 credits +11 Basic Science)**
- C: COM 100____(3), CW: WRT 333 _____(3)
- MQ: (3 cr. from Basic Science)
- N: (8 cr. from Basic Science)
- S: ________(3) ________(3)

(15 credits from L, A, and F)
- L: ________ ________
- A: ________ ________
- F: ________ ________

**Introductory Professional Courses** (4 credits)
- MIC 211* ______(4)

*MIC 211 is highly recommended but students may substitute it for MIC 201.*

**Basic Sciences** (41 credits)*
- BCH 311____(3) BIO 352____(4)
- BIO 101_____4) BIO 102____(4)
- BIO 121_____4) BIO 242____(3)
- CHM 101____(3) CHM 102____(1)
- CHM 112____(3) CHM 114____(1)
- CHM 124____(3) CHM 126____(1)
- MTH 111____(3) or 131____(3), or 141____(3)
- PHY 111____(3) PHY 185____(1)

*8 credits apply to N category & 3 credits apply to MQ.*

**Concentration** (33 credits)
- MIC190 _____(3) MIC 333 _____(3)
- MIC 432 ____ (3) BIO 341 ____ (3)
- BIO 437 _____(3) MLS 102 _____(1)
- MLS 195 ____ (5) MLS 199 _____(12)

**Free Electives** (15 credits)
Students may take courses of their choice.

**120 credits required**

Student Total________

**ADVISING COMMENTS:**
<table>
<thead>
<tr>
<th>Freshman, Fall (16)</th>
<th>Freshman, Spring (17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIC 211: Introductory Microbiology</td>
<td>BIO 102: Principles of Biology II</td>
</tr>
<tr>
<td>Freshman, Summer (12)</td>
<td>MLS 199: Biotechnology Manufacturing Internship</td>
</tr>
<tr>
<td>CHM 101, 102: General Chemistry Lecture, Lab</td>
<td>CHM 124, 126: Introduction to Organic Chemistry, Lab</td>
</tr>
<tr>
<td>BIO 101: Principles of Biology I</td>
<td>MLS 195: Biotechnology Manufacturing Methods</td>
</tr>
<tr>
<td>MIC 190: Issues in Biotechnology</td>
<td>MLS 102: Introduction to Clinical Laboratory Science</td>
</tr>
<tr>
<td>URI 101</td>
<td>BIO 242: Introduction to Human Physiology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore, Fall (15)</th>
<th>Sophomore, Spring (15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 112, 114: General Chemistry Lecture II, Lab</td>
<td>BIO 352: Genetics</td>
</tr>
<tr>
<td>BIO 121: Human Anatomy</td>
<td>MTH 111, 131, or 141:</td>
</tr>
<tr>
<td>Gen ed</td>
<td>Gen ed: Principles of Cell Biology</td>
</tr>
<tr>
<td>Gen ed</td>
<td>Gen ed</td>
</tr>
<tr>
<td>Gen ed</td>
<td>Gen ed</td>
</tr>
<tr>
<td>Gen ed</td>
<td>Gen ed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior, Fall (16)</th>
<th>Junior, Spring (15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIC 333: Immunology and Serology</td>
<td>MIC 432: Pathogenic Bacteriology</td>
</tr>
<tr>
<td>PHY 111, 185</td>
<td>BCH 311: Biochemistry</td>
</tr>
<tr>
<td>Gen ed</td>
<td>Gen ed</td>
</tr>
<tr>
<td>Gen ed</td>
<td>Gen ed</td>
</tr>
<tr>
<td>Gen ed</td>
<td>Gen ed</td>
</tr>
<tr>
<td>Gen ed</td>
<td>Gen ed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Senior, Fall (14)</th>
<th>No Senior Spring Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives</td>
<td>Electives</td>
</tr>
</tbody>
</table>