MICROBIOLOGY

Effective Fall 2011

College of the Environment & Life Sciences (CELS)

Department: Cell and Molecular Biology 874-2201 http://www.uri.cels/cmb
UC Advisor: Gongqin Sun Email: gsun@uri.edu
Credits: 120

The Major: Microbiology is an exciting field with challenging frontiers that include genetic engineering, cancer research, cellular mechanisms of infection, basic research in cell and molecular biology, and microbial ecology. Microbiologists today apply new technical approaches such as gene cloning, electron microscopy, and computer technology, to bacteria, viruses, algae, protozoa, fungi, and to animal and plant cells.

Career Options: A BS in microbiology prepares a person for working at the bench in a number of areas, including: some hospital laboratories, the federal government (EPA, FDA, USDA) and industry. It is also an excellent basic foundation for graduate school and for professional schools, like dental school, medical school, veterinary school and podiatry school**.**

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 (38 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 <u>only 15 credits of General Education courses from Category A (Fine Arts & Literature), L (Letters), or F (Foreign Language/Culture).</u> 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 (4 credits):
MIC 211 or 201 Introductory Microbiology

Basic Sciences (45 credits) - 11 credits applicable to General Education**:**
BCH 311 Introductory Biochemistry
BIO 101 Principles of Biology I
BIO 102 Principles of Biology II
BIO 352 Genetics
CHM 101, 102 General Chemistry I, Lab
CHM 112, 114 General Chemistry II, Lab
CHM 226 Organic Chemistry Lab
CHM 227 Organic Chemistry I
CHM 228 Organic Chemistry II
MTH 111 *or* 132 *or* 142 Pre-calculus or Applied Calculus II or Intermediate Calculus with Analytic Geometry
MTH 131 *or* 141 Applied Calculus or Introductory Calculus with Analytic Geometry
PHY 111, 185 General Physics I, Lab
PHY 112, 186 General Physics II, Lab

Concentration (26 credits):
MIC 333 Immunology and Serology
MIC 413, 415 Advanced Microbiology I, Lab
MIC 414, 416 Advanced Microbiology II, Lab
MIC 495 Seminar in Microbiology
MIC (other courses in MIC, up to 6cr MIC491/2 or selected courses in BIO)

Free Electives (17 credits)
You may take 17 credits of your choice.

** For more information about the major contact the CBM University College advisor listed above.*

MICROBIOLOGY, 120 CREDITS

Effective Fall 2010

College of the Environment & Life Sciences (CELS)

Department of Cell & Molecular Biology

STUDENT_____ **ADVISOR**_____

General Education (27 credits +11 Basic Sciences)

C: COM 100_____(3), **CW**: WRT _____(3)

MQ: (3 cr. from Basic Science Requirements)

N: (8 cr. from Basic Science Requirements)

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 (44 credits)

BCH 311_____(3)

BIO 101_____(4) BIO 102_____(4)

BIO 352_____(3)

CHM 101_____(3), 102_____(1)

CHM 112_____(3), 114_____(1)

CHM 226_____(2), 227_____(3), 228_____(3)

MTH 111_____(3), ***or*** 132_____(3), ***or*** 142_____(3)
or STA 307/8 ____(3)

MTH 131_____(3) ***or*** MTH 141_____(3)

PHY 111_____(3), 185_____(1)

PHY 112_____(3), 186_____(1)

*8 credits apply to N category & 3 credits apply to MQ for General Ed credits.

Concentration (26 credits)

MIC 333 _____(3) MIC 413 _____(3)

MIC 415 _____(2) MIC 414 _____(3)

MIC 416 _____(2) MIC 495 _____(1)

Select from the following courses to fulfill the reminder 12 credits needed.

MIC190_____(3) MIC334_____(3)

MIC 412_____(3) MIC 422_____(3)

MIC 432_____(3) MIC483_____(3)

MIC 576_____(4) BIO 327_____(3)

BIO 341_____(3) BIO 437_____(3)

MIC491/492 ___ (up to 6 credits)

Free Electives (19 credits)

Students may take courses of their choice.

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120 credits required

Student Total_____

ADVISING COMMENTS:

Microbiology B.S.	
Freshman, Fall (14-15)	**Freshman, Spring (14-15)**
MTH111 or MTH131 or MTH141: Precalculus or Applied Calculus or Introductory Calculus with Analytic Geometry	WRT 104: Writing to Inform and Explain
CHM 101, 102: General Chemistry Lecture I, Lab	CHM 112, 114: General Chemistry Lecture II, Lab
BIO 101: Principles of Biology I	BIO 102: Principles of Biology II
Gen Ed	Gen Ed
URI 101: Traditions and Transformations: A Freshmen Seminar	
Sophomore, Fall (17)	**Sophomore, Spring (14-15)**
CHM 227: Organic Chemistry Lecture I	BIO 352: General Genetics
MIC 211: Introductory Microbiology	MIC Elective
MTH 132 or 142: Applied Calculus II or Intermediate Calculus with Analytic Geometry	PHY 112/186: General Physics II/ Lab
PHY 111/185: General Physics I/ Lab	Gen Ed
Free Elective	
Junior, Fall (14-15)	**Junior, Spring (15)**
MIC 333: Immunology and Serology	BCH 311: Biochemistry
CHM 228: Organic Chemistry Lecture II	MIC Elective
CHM 226: Organic Chemistry Lab	Option course/supp. Elective
Gen Ed	Gen Ed
MIC Elective	Free Elective
Senior, Fall (15-16)	**Senior, Spring (14)**
MIC 413: Advanced Microbiology Lecture I	MIC 414: Advanced Microbiology Lecture II
MIC 415: Advanced Microbiology Lab I	MIC 416: Advanced Microbiology Lab II
MIC 495: Seminar in Microbiology	MIC elective
Supporting/Free Elective	Supporting/Free Elective
Free Elective	Free Elective/Gen Ed Elective