MICROBIOLOGY, Biotechnology

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
Option: Biotechnology
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: This option or track is specifically designed for students who are interested in working in the biotechnology industry. The track was designed in consultation with workers from the biotechnology industry in New England.

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 (36 credits): All Category MQ (Mathematical & Quantitative Reasoning) and N (Natural Sciences) General Education requirements (9 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.

MIC 190 Issues in Biotechnology
MIC 211 or 201 Introductory Microbiology

Basic Sciences (44 credits)- 9 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 Pre-calculus
MTH 131 *or* 141 Applied Calculus or Calculus
PHY 111, 185 General Physics I, Lab
PHY 112, 186 General Physics II, Lab

Concentration (26 credits):
BIO 341 Cell Biology
MIC 333 Immunology and Serology
MIC 413, 415 Advanced Microbiology I, Lab
MIC 437 Fundamentals of Molecular Biology
MIC 499 Biotechnology Internship

Free Electives (16 credits)
You may take 16 credits of your choice.

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

MICROBIOLOGY, 120 CREDITS

Effective Fall 2010

Biotechnology 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 _____(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 (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 STA307/308 ____(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.

Concentration (29 credits)

MIC190 _____(3) MIC 333 _____(3)

MIC 413 _____(3) MIC 415 _____(2)

BIO341 _____(3) MIC 499 _____(12)

BIO437 _____(3)

Free Electives (16 credits)

Students may take courses of their choice.

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120 credits required

Student Total_____

ADVISING COMMENTS: