

# CONCENTRATION PLAN for MICROBIOLOGY

[Eff. 9/2007 – updated 9/09]

Name \_\_\_\_\_ Uniqname \_\_\_\_\_  
UMID \_\_\_\_\_ Exp. Date of Graduation \_\_\_\_\_

## PREREQUISITES

**NOTE:** To complete the introductory series, students must take BIO 171, 172, and 173 (Track #1); or AP BIO 195 and BIO 173 (Track #2); or already have taken BIO 162 (no longer offered) (Track #3).

	CREDITS	TERM AND YEAR	COMPLETED
<u>Track #1</u> – Biology 171		_____	_____
Biology 172		_____	_____
Biology 173 ( <i>lab</i> )		_____	_____
<u>Track #2</u> – Biology 195 (AP)		_____	_____
Biology 173 ( <i>lab</i> )		_____	_____
<u>Track #3</u> – Biology 162 (or AP credit for Bio 162)		_____	_____
Chemistry 210 and 211		_____	_____
Chemistry 215 and 216		_____	_____
Physics 125 and 127 ( <i>lab</i> ); <b>OR</b> 135 or 140 or 160 and 141 ( <i>lab</i> )		_____	_____
Physics 126 and 128 ( <i>lab</i> ); <b>OR</b> 235 or 240 or 260 and 241 ( <i>lab</i> )		_____	_____
Mathematics 115 or 120 or 185		_____	_____
Mathematics 116 or 121 or 186		_____	_____

## CONCENTRATION COURSES

Biology 207, Microbiology		_____	_____
Biology 305, Genetics		_____	_____
Biology/MCDB 310 or 311, <b>or</b> Biolchem. 415, <b>or</b> Chem. 451 <b>and</b> 452		_____	_____
MCDB 306 or 429, <b>or</b> Biolchem. 416		_____	_____

## UPPER LEVEL REQUIRED COURSES (A minimum of 19 credits is required.)

### Specified Electives

Group 1 _____		_____	_____
Group 1 _____		_____	_____
Group 2 _____		_____	_____
_____		_____	_____
_____		_____	_____

### Advanced Electives (A maximum of 8 credits is allowed.)

_____	_____	_____	_____
_____	_____	_____	_____

**TOTAL CONCENTRATION HOURS** \_\_\_\_\_

## UPPER LEVEL REQUIREMENTS

- A total of 19 credits is required to complete the Microbiology concentration.
- A minimum of 11 credits must be selected from Groups 1 and 2, and must include:
  - at least two courses from Group 1, and
  - one course from Group 2.
- The remaining 8 credits may be selected from Group 1, 2, or 3.

### GROUPS 1 AND 2: SPECIFIED ELECTIVES (Select a minimum of 11 credits.)

#### 1: Microbial Genetics, Physiology, Cellular Biology, Diversity, and Ecology

Select at least two courses.

EEB 315	Ecology and Evolution of Infectious Diseases (3)
EEB 470	Microbial Diversity (3)
MCDB 401	Advanced Topics (only sections applicable to Microbiology)
MCDB 415	Microbial Genetics (3)
MCDB 432	Microbial Physiology (3)
MCDB 589	Microbial Evolution (3)
MICRBIOL/INTMED 460	Eukaryotic Microbiology (3)

#### 2: Microbial Pathogenesis, General Virology, and Immunology

(Select one course.)

EPID 460	Mechanisms of Bacterial Pathogenesis (3)
MICRBIOL 405	Introduction to Infectious Disease (3)
MICRBIOL 415	Virology (3)
MCDB 436 or MICRBIOL 440	Immunology (3)

### GROUP 3: ADVANCED ELECTIVES

#### Advanced Biochemistry, Molecular Biology, Cellular Biology

MCDB 411 or CHEM 452	Advanced Biochemistry (3-4)
MCDB 427	Molecular Biology (4)
MCDB 428	Cellular Biology (4)

#### Ecology

EEB 476	Ecosystem Ecology (3)
EEB 483	Freshwater Ecology (3)

#### Microbiology And Immunobiology

Any MICRBIOL course at the 500-level or higher (with approval of an advisor).

#### Advanced Mathematics

Any course with a MATH 116 prerequisite.

#### Statistics

Any stats course at the 400-level or above.

#### Research

- Select either EPID 399, or MICRBIOL 399, or EEB 400, or MCDB 400.
- A course must be taken for a **minimum of 2 credits** each and be completed in a single academic term.
- **Only 3 credits of independent research may count toward the concentration program.**

Other Courses with permission of a microbiology advisor.

