

# BACHELOR OF SCIENCE IN MICROBIOLOGY

(as approved 4/20/04)

## College of Natural Science

### University (Integrative Studies & Tier I Writing Courses) (20 cr)

Tier 1 Writing (WRA 1XX) . . . . .	4 credits
Social Behavioral and Economic Sciences (ISS 2XX & 3XX) . . . . .	8 credits
Arts and Humanities (IAH ≤210 & ≥211) . . . . .	8 credits

### College of Natural Science (40 - 44 credits)

Mathematics (MTH) - 132 and 133 . . . . .	6 or 7 credits
<u>or</u> 124 and 126	
<u>or</u> 124 and STT 231 or STT 421	
<u>or</u> 132 and STT 231 or STT 421	
Physics (PHY)- 231, 232, 251, 252 (or web equivalent) . . . . .	8 credits
<u>or</u> 183, 184, 191, 192 . . . . .	10 credits
Chemistry (CEM)-General-141, 142 <u>or</u> 151, 152 . . . . .	7 or 8 credits
Laboratory - 161, 162 . . . . .	2 credits
Organic - 251, 252, 255 <u>or</u> 351, 352, 355 . . . . .	8 credits
Biological Science (BS) - 110, 111, 111L . . . . .	9 credits

### Departmental Requirements (34 - 35 credits)

Biochemistry (BMB) - 461, 462 . . . . .	6 credits
Microbiology (MMG)	
a. Core Courses	
Introductory Microbiology . . . . .	301 3 credits
Introductory Microbiology Lab . . . . .	302 1 credit
*Advanced Microbiology Laboratory . . . . .	408 3 credits
Eukaryotic Cell Biology . . . . .	409 3 credits
Prokaryotic Cell Physiology . . . . .	421 3 credits
Microbial Genetics . . . . .	431 3 credits
b. Capstone Experience	
⌘ Undergraduate Research Seminar . . . . .	492 1 credit
<u>and</u> Undergraduate Research . . . . .	499** or 499H** 2 credits
<u>or</u>	
Current Topics in Microbiology . . . . .	491 3 credits
c. Complete an option . . . . .	9-10 credits

\*Fulfills Tier II Writing requirement

\*\*Variable credit course (1-3 credits per semester; 6 credit maximum)

⌘Recommended experience

## Requirements for Options

### Cell and Molecular Biology

MMG 413	Virology	3
MMG 451	Immunology	3

One of the following courses (3-4 credits):

MMG 433	Microbial Genomics	3
MMG 445	Basic Biotechnology	3
ZOL 341	Fundamental Genetics	4
MMG 833**	Microbial Genetics	3
MMG 835**	Eukaryotic Cell Genetics	3

### Medical Microbiology and Immunology

MMG 413	Virology	3
MMG 451	Immunology	3

One of the following courses (3-4 credits):

EPI 390	Disease in Society	4
FSC 440*	Food Microbiology	3
MMG 461	Molecular Pathogenesis	3
MMG 463*	Medical Microbiology	3
MMG 861**	Molecular Pathogenesis	3

### Microbe Biology

MMG 425	Microbial Ecology	3
MMG 433	Microbial Genomics	3

One of the following courses (3 credits):

MMG 413	Virology	3
MMG 426***	Biogeochemistry	3
MMG 445	Basic Biotechnology	3
MMG 463*	Medical Microbiology	3

### Microbial Biotechnology

MMG 433	Microbial Genomics	3
MMG 445	Basic Biotechnology	3

One of the following courses (3 credits):

FSC 440*	Food Microbiology	3
MMG 425	Microbial Ecology	3
MMG 451	Immunology	3
MMG 801**	Integrative Microbial Biology	4

\*Laboratory courses exist (FSC 441, MMG 464)

\*\*Permission of instructor required

\*\*\*Offered at Kellogg Biological Station (Hickory  
Corners, MI)