

# BACHELOR OF SCIENCE DEGREE ENVIRONMENTAL BIOLOGY/MICROBIOLOGY COORDINATE MAJOR

FOR ADDITIONAL INFORMATION, PLEASE CONTACT THE [DEPARTMENT OF MICROBIOLOGY & MOLECULAR GENETICS](#)

**(1) UNIVERSITY REQUIREMENTS**

Writing Requirement

Tier I: LB 133 4  
Tier II: Satisfied by completing the Lyman Briggs College History, Philosophy and Sociology of Science and Senior requirements listed below.

Integrative Studies in Arts & Humanities (IAH)

IAH 201-210\* 4  
IAH 211-241\*†‡ 4

Integrative Studies in Social, Behavioral & Economic Sciences (ISS)

ISS 200-level course\* 4  
ISS 300-level course\*‡@ 4

\*National, International, & Multicultural Diversity  
Students must include at least one "N" course and one "I" course in their Integrative Studies programs. A "D" course may meet either an "N" or an "I" requirement, but not both.

†Summer 2013 to Summer 2017: LB 331, 333, and 336 will fulfill the IAH "B" university requirement (IAH 211 or higher). Please consult your LBC Academic Advisor for specific details for your program.

‡Summer 2013 to Summer 2017; LB 332, 334, and 335 will fulfill the ISS 300-level university requirement. Please consult your LBC Academic Advisor for specific details for your program.

# Beginning Fall 2017; LB 321a, 322a, 323a, 324a, 325a, 326a and 327a will fulfill the IAH university requirement (IAH 211 or higher).

@ Beginning Fall 2017; LB 321b, 322b, 323b, 324b, 325b, 326b and 327b will fulfill the ISS 300-level university requirement.

Please contact your LBC Academic Advisor for specific details for your program. If you fulfilled the LB 331, 332, 333, 334, 335 or 336 requirement you do not need the new Fall 2017 courses.

Mathematics, Biological and Physical Sciences

Satisfied by the Lyman Briggs College requirements in Mathematics, Biological and Physical Sciences (see next section).

**(2) LYMAN BRIGGS COLLEGE REQUIREMENTS**

Biological Sciences (9 cr.)

Complete ONE of the following groups of courses  
(1) LB 144 & 145\* 9  
(2) BS 161, 162, 171, & 172 10

Chemistry (9 cr.)

Complete ONE of the following groups of courses  
(1) LB 171, 171L, 172, & 172L\* 9  
(2) CEM 141, 142, 161, & 162\* 9

Physics (8-10 cr.)

Complete ONE of the following groups of courses  
(1) LB 273, 274\* 8  
(2) PHY 231, 232, 251, & 252\* 8

Mathematics (6-8 cr.)

Complete ONE of the following groups of courses  
(1) LB 118 & STT 231\* 7  
(2) MTH 132 & STT 231\* 7

History, Philosophy & Sociology of Science (11-12 cr.)

LB 133 4  
LB 321-327, 330-336, 355, 490E; ENG 473A; HST 425; SOC 368 7-8

Senior Seminar (4 cr.)

LB 492 4

\*Biology, Chemistry, Physics and Mathematics courses also satisfy graduation requirements for the major

Minimum number of credits required: 120

Minimum cumulative and major grade point average: 2.0

### (3) MAJOR REQUIREMENTS

Complete ALL of the following courses (25 cr.)

CE	280	Principles of Environmental Engineering & Science	2
CEM	251	Organic Chemistry I	3
CEM	252	Organic Chemistry II	3
CEM	255	Organic Chemistry Laboratory	2
CSS	210	Fundamentals of Soil Science	3
GLG	201	The Dynamic Earth	4
GLG	421	Environmental Geochemistry	4
IBIO	355	Ecology	3
IBIO	355L	Ecology Laboratory	1

Complete ONE of the following options (4-6 cr.)

BMB	461	Advanced Biochemistry I	3
BMB	462	Advanced Biochemistry II	3
		Or	
BMB	401	Basic Biochemistry	4

Complete the following courses (16 cr.)

MMG	301	Introductory Microbiology	3
MMG	302	Introductory Laboratory for General And Allied Health Microbiology	1
MMG	408	Advanced Microbiology Laboratory	3
MMG	421	Prokaryotic Cell Physiology	3
MMG	425	Microbial Ecology	3
MMG	431	Microbial Genetics	3

Complete ONE of the following options (3 cr.)

MMG	491	Current Topics in Microbiology & Molecular Genetics	3
		Or	
MMG	492	Undergraduate Research Seminar	1
		And	
MMG	499	Undergraduate Research	2
		Or	
MMG	499H	Honors Research	2

Complete ONE course from TWO of the following areas (6 cr.)

1. CSS	455	Pollutants in the Soil Environment	3
2. FOR	404	Forest Ecology	3
3. FSC	440	Food Microbiology	3
4. GEO	206	Physical Geography	3
	GEO 221	Introduction to Geographic Information	3
5.			
6. MMG	445	Microbial Biotechnology	3
7. IBIO	446	Environmental Issues & Public Policy	3
	FOR 466	Natural Resource Policy	3
8. FW	420	Stream Ecology	3
	FW 472	Limnology	3

**IMPORTANT: This advising guide is presented for planning purposes only. It is the student's responsibility for knowing and following University, college and departmental requirements as stated in the [Academic Programs Catalog](#).**

**The Academic Advisors will provide information and suggest others based on expressed interests. It is the student's responsibility for enrolling in classes and selecting the number of credits per semester for success. Appointments are made using the [Student Success Dashboard](#).**