

# BACHELOR OF SCIENCE DEGREE BIOCHEMISTRY & MOLECULAR BIOLOGY/BIOTECHNOLOGY

## COORDINATE MAJOR

FOR ADDITIONAL INFORMATION, PLEASE CONTACT THE DEPARTMENT OF BIOCHEMISTRY & MOLECULAR BIOLOGY

### (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.

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

‡Beginning Summer 2013, LB 332, 334, and 335 will fulfill the ISS 300-level university requirement. Please consult your LBC advisor for specific details for your program.

#### Mathematics, Biological and Physical Sciences

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

Minimum number of credits required: 120

Minimum cumulative and major grade point average: 2.0

### (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 (8-9 cr.)

Complete ONE of the following groups of courses  
(1) LB 171, 171L, 172, & 172L 9  
(2) CEM 141, 142, 161, & 162 9  
(2) CEM 151, 152, 161 & 162 9

#### Physics (8 cr.)

Complete ONE of the following groups of courses  
(1) LB 273, 274\* 8  
(2) PHY 183, 184 8

#### Mathematics (6-7 cr.)

Complete ONE of the following groups of courses  
(1) LB 118 & 119\* 8  
(2) MTH 132 & 133\* 7

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

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

#### Senior Seminar (4 cr.)

LB 492 4

\*Physics and Mathematics courses also meet graduation requirements for major

### (3) MAJOR REQUIREMENTS

Complete ALL of the following courses (31 cr.)

BMB	101	Frontiers in Biochemistry	1
BMB	461	Advanced Biochemistry I	3
BMB	462	Advanced Biochemistry II	3
BMB	471	Biochemistry Laboratory	3
CEM	262	Quantitative Analysis	3
CEM	355	Organic Chemistry Lab I	2
CEM	356	Organic Chemistry Lab II	2
CHE	201	Material & Energy Balances	3

Complete ELEVEN additional credits in approved advanced Biotechnology courses at the 300-400 level.

Choose ONE of the following groups of courses (6 cr.)

CEM	251	Organic Chemistry I	3
CEM	252	Organic Chemistry II	3
		OR	
CEM	351	Organic Chemistry I	3
CEM	352	Organic Chemistry II	3

Complete ONE of the following courses (3-4 cr.)

CSE	131	Technical Computing & Problem Solving	3
CSE	231	Introduction to Programming	4

Complete ONE of the following courses (2-8 cr.)

BMB	472	Biochemistry Laboratory	3
CSS	451	Biotechnology Applications for Plant Breeding & Genetics	3
MMG	408	Advanced Microbiology Laboratory	3

Complete ONE of the following courses (3-4 cr.)

CSS	350	Introduction to Plant Genetics	3
IBIO	341	Fundamental Genetics	4

Complete ONE of the following courses (3cr.)

CEM	383	Introductory Physical Chemistry I	3
CEM	484	Molecular Thermodynamics	3

Complete ONE of the following courses (2-8 cr.)

BMB	495	Undergraduate Seminar	2
BMB	499	Senior Thesis	2-8

**IMPORTANT: These guidelines are presented for planning purposes only. Students MUST consult a department advisor for confirmation of major requirements.**