MICHIGAN STATE UNIVERSITY | Lyman Briggs College

BACHELOR OF SCIENCE DEGREE
GENOMICS AND MOLECULAR GENETICS

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 & 119 8
(2) MTH 132 & 133 7
(3) LB 118 & STT 231 7
(4) 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

Minimum number of credits required: 120

Minimum cumulative and major grade point average: 2.0

(3) MAJOR REQUIREMENTS

Complete the following course (4 cr.)

IBIO	341	Fundamental Genetics	4

Complete ONE of the following options (8 cr.)

CEM	251	Organic Chemistry I	3
CEM	252	Organic Chemistry II	3
CEM	255	Organic Chemistry Laboratory	2
		or	
CEM	351	Organic Chemistry I	3
CEM	352	Organic Chemistry II	3
CEM	355	Organic Laboratory I	2

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

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

Complete the following courses (13 cr.)

MMG	301	Introductory Microbiology	3
MMG	302	Introductory Microbiology Laboratory	1
MMG	408	Advanced Microbiology Laboratory^	3
MMG	409	Eukaryotic Cell Biology	3
MMG	431	Microbial Genetics	3
MMG	433	Microbial Genomics	3

^MMG 434 may be substituted for MMG 408

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

1. MMG	491	Current Topics in Microbiology & Molecular Genetics	4
		or	
2. MMG	492	Undergraduate Research Seminar	1
		and	
MMG	499	Undergraduate Research	2
		or	
MMG	499H	Honors Research	2

Complete TWO of the following courses (6 - 8 cr.)

MMG	404	Human Genetics	3
MMG	413	Virology	3
MMG	833	Microbial Genetics	3
MMG	835	Eukaryotic Molecular Genetics	4
ANS	314	Genetic Improvement of Domestic Animals	3
ANS	425	Animal Biotechnology	3
CSE	231	Introduction to Programming I	4
CSE	232	Introduction to Programming II	4
CSS (PSM)	350	Introduction to Plant Genetics	3
CSS (PSM)	441	Plant Breeding & Biotechnology	3
IBIO	445	Evolution	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 dvisors 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**.**