

Microbiology (BS): Microbial Research (17MBIOBS-17MBIOMBR)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
BIO 181 Intro Biology: Ecol, Evol, Biodvrsty ¹	4	BIO 183 Intro Biology: Cellular & Molecular ¹	4
CH 101 Chem Molecular Sci ¹	3	CH 221 Organic Chem I ¹	3
CH 102 Gen Chem Lab ¹	1	CH 222 Organic Chem I lab ¹	1
LSC 101 Critical Creative Thinking Life Sci*	2	ENG 101 Acad Writing Rsrch	4
MA 131 Calculus I ^{1,2}	3	GEP Social Science Elective *	3
MB 103 Intro Topics Micro ³	1		
GEP Health and Exercise Studies Req*	1		
	15		15

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
CH 223 Organic Chem II ¹	3	CH 201 Chem Quant Sci ¹	3
CH 224 Organic Chem II lab ¹	1	CH 202 Chem Quant lab ¹	1
PY 211 Gen Physics I ^{1,4}	4	PY 212 Gen Physics II ^{1,6}	4
MB 351 Gen Microbiol ¹	3	MB 360 Sci Inquiry Micro ¹	3
GEP Social Science Elective*	3	MB 411 Medical Micro ¹	3
MB 354 Inquiry-Guided Micro. Lab ¹	1	MB 412 Med Micro Lab ¹	1
	15		15

Junior Year

Fall Semester	Credit	Spring Semester	Credit
ENG 333 Comm Sci Res	3	Cell/Physiology Elective ^{1,7}	3
GN 311 Princ Genetics ¹	4	Biochemistry Elective ^{1,11}	4
Micro Research Elective ^{1,9}	3	Laboratory Elective ^{1,8}	3
GEP Health and Exercise Studies Req*	1	GEP Addit. Breadth Elective *	3
ST 311 Intro Statistics ^{1,5}	3	Micro Research Elective ^{1,9}	3
	14		16

Senior Year

Fall Semester	Credit	Spring Semester	Credit
MB 414 Metabolic Reg ¹	3	Gene Expression Elective ^{1,10}	3
MB 480 Issues in Microbiology ¹	3	Micro Research Elective ^{1,9}	3
Micro Research Elective ^{1,9}	3	GEP IP Elective *	3
GEP Humanities Elective*	3	Free Elective	3
MB 451 Micro Diversity ¹	2	GEP Humanities Elective*	3
MB 452 Micro Diversity Lab ¹	1		
	15		15

Minimum Credit Hours Required for Graduation*:

120

Major/Program Footnotes

1 A minimum grade of C- is required for these courses

2 or MA 141 (MA 131 recommended)

3 or LSC 103

4 or PY 201 or PY 205 (PY 211 recommended)

5 or ST 371 for those with credit for MA 141 and MA 241 (ST 311 recommended)

6 or PY 202 or PY 208 (PY 212 recommended)

7 BIO 414, PB 414, BIO 240, BIO 245, or PB 421

8 Select at least 3 credits of GN 412, BCH 452, BEC 330, MB 360 or any 400-level BEC or BIT courses

9 Select at least 3 credits of MB 492, or BSC 493, or BSC 492(** 492, ** 493, ALS 498, ALS 499 with departmental approval)

10 Either BCH 453 or GN 413

11 Either BCH 351 or BCH 451

***General Education Program (GEP) requirements and GEP Footnotes**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <http://oucc.dasa.ncsu.edu/general-education-program/>.

Mathematical Sciences (6 credit hours; one course with MA or ST prefix) *In Microbiology, this GEP requirement is met through the Major course requirements.*

Natural Sciences (7 credit hours; include one laboratory course or course with a lab) *In Microbiology, this GEP requirement is met through the Major course requirements.*

Humanities (6 credit hours selected from two different disciplines/course prefixes) *Choose from the University approved GEP Humanities course list. Some of these courses fulfill the US Diversity or Global Knowledge co-requisites.*

Social Sciences (6 credit hours selected from two different disciplines/course prefixes) *Choose from the University approved GEP Social Sciences course list. Some of these courses fulfill the US Diversity or Global Knowledge co-requisites.*

Health and Exercise Studies (2 credit hours; at least one HESF 100-level Course) *Choose from the University approved GEP Health and Exercise Studies course list.*

Additional Breadth (3 credit hours to be selected from the following checked University approved GEP course lists) Humanities/Social Sciences/Visual and Performing Arts or Mathematical Sciences/Natural Sciences/Engineering

Interdisciplinary Perspectives (5-6 credit hours) *Choose from the University approved GEP Interdisciplinary Perspectives course list. Some of these courses fulfill the US Diversity or Global Knowledge co-requisites.*

Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements

U.S. Diversity (USD) *Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.*

Global Knowledge (GK) *Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.*

Foreign Language proficiency Proficiency at the FL_102 level is required for graduation