

Degree Requirements for Microbiology Majors (2015 and later)

The following contains information on the courses required to fulfill a degree in Microbiology at New Mexico State. **A minimum of 120 credits must be taken; 48 at the 300 level or above.** Below you will find a listing of courses that must be taken to fulfill departmental requirements as well as College of Arts and Sciences requirements. You must earn a **C or better** in all departmentally required classes.

DEPARTMENTAL REQUIREMENTS

Mandatory Basic Classes *Prerequisites

- BIOL 111G & L Natural History of Life & Lab (3,1) *Pre/Co-Requisite Math 120
- BIOL 211G & L Cellular & Organismal Biology & Lab (3,1) *Pre/co-requisite CHEM 110 or 111 and Math 120
- BIOL 305 Principles of Genetics (3) *BIOL 111, BIOL 211, CHEM 111, and Math 121

Microbiology Courses (at least 24 credits upper division)

Required Classes (18 credits)

- BIOL 311 General Microbiology (3) *BIOL 211
- BIOL 311L General Microbiology Lab (2) *BIOL 211; Pre/co- req Biol 219 or 311
- BIOL 474 Immunology (3) *BIOL 305; CHEM 211 or 313
- BIOL 478 Molecular Biology of Microorganisms (3) *BIOL 305 and BIOL 311; BCHE 341 or 395 recommended
- BIOL 479 Medical Microbiology (3) *BIOL 311; BIOL 474 recommended
- BIOL 479L Medical Microbiology Laboratory (1) *Pre/co-req BIOL 479

- BIOL 451 Physiology of Microorganisms (3) *BIOL 311; BCHE recommended **OR**
BIOL 475 Virology (3) *BIOL 311; BCHE recommended

Additional Upper Division Microbiology Electives (6+ credits):

- BIOL 412 Seminar in Microbiology (1) *BIOL 311/311L (Graded S/U)
- BIOL 427 Symbiosis (3)
- BIOL 469 Emerging Infectious Diseases (3) *BIOL 305 or equiv. course or instructor consent
- BIOL 473 Ecology of Microorganism (3) *BIOL 311 or instructor consent
- BIOL 476 Soil Microbiology (3) *SOIL 252; BIOL 311 recommended
- BIOL 477 Applied & Environmental Microbiology (4) *BIOL 311/311L or instructor consent

- BIOL 451 Physiology of Microorganisms (3) *BIOL 311 **OR**
BIOL 475 Virology (3) *BIOL 311

Note: Students may take **both** BIOL 451 and 475; the second course will count towards MBIO Electives

Other departmental requirements (35 credits; required non-biology classes)

(Note: all of these courses are required)

- CHEM 111 General Chemistry I (4)
- CHEM 112 General Chemistry II (4)
- CHEM 313 Organic Chemistry I (3)
- CHEM 314 Organic Chemistry II (3)
- CHEM 315 Organic Chemistry Lab (2) } Co-Requisite
- BCHE 395 Biochemistry (3)

- Math 190 Trig.& Pre-Calculus (4)
- Math 191 Calculus & Analyt. Geometry I (4)
- A ST 311 Statistical Applications (3) **OR**
BIOL 455 Biometry (3)

- PHYS 221 Gen. Physics for Life Sciences I (3) } Fall **OR**
- PHYS 221L Gen. Physics Lab I (1)
- PHYS 222 Gen. Physics for Life Sciences II (3) } Spring **OR**
- PHYS 222L Gen. Physics Lab II (1)

- PHYS 211 General Physics I (3)
- PHYS 211L General Physics Lab I (1)
- PHYS 212 General Physics II (3)
- PHYS 212 L General Physics Lab II (1)

NEW MEXICO COMMON CORE REQUIREMENTS

Area 1 – Communication (10 cr.)

ENGL 111G, 111H, or SPCD 111G
ENGL 203G, 211G, **218G**, 311G or 318G
COMM 253G or 265G, HON 265G

Area 2 – Mathematics (3cr.)

Satisfied by taking departmental requirements

Area 3 – Laboratory Sciences (8cr.)

Satisfied by taking departmental requirements

Area 4/5-A total of 15 credits (5 courses)

Example:

2 classes from Area 4

2 classes from Area 5

1 class from either Area 4 or 5

Area 4 – Social/Behavioral Sciences (6-9cr.)

AG E/FSTE 210G
ANTH 120G, 125G, 201G, 202G, 203G
C EP 110G
C J 101G
ECON 201G, 251G, 252G
GEOG 112G, 120G
GOVT 100G, 110G, 150G, 160G
H LS 150
HON 203G, 232G, 235G, 237G, 248G, 249G
JOUR 105G
LING 200G
PSY 201G
SOC 101G, 201G
S WK 221G
W S 201G, 202G

Area 5 – Humanities and Fine Arts (6-9cr.)

ART 101G, 110G, 295G, 296G
DANC 101G
ENGL 115G, 116G, 220G, 244G
HIST 101G, 102G, 110G, 111G, 112G, 201G, 202G,
211G, 212G, 221G, 222G
HON 208G, 216G, 220G, 221G, 222G, 225G, 226G,
227G, 228G, 229G, 230G, 234G, 239G, 241G, 242G,
244G, 270G
MUS 101G, 201G
PHIL 100G, 101G, 124G, 136G, 201G, 211G, 223
THTR 101

Second Language – (8 cr.) Complete up to 112/113 level

_____ 111
_____ 112/113

or

American Sign Language: sequence: CD 374/375

or

Waiver option: completed 2 yrs. of language in H.S.
(Fill out H.S. Second Language Verification Form)
<http://artsci.nmsu.edu/forms/category/student-records>

VIEWING A WIDER WORLD (6cr.)*

Viewing a Wider World courses are a prescribed list of 300- and 400-level general education courses. You must take 2 courses from 2 different colleges.

**Students taking 9 or more upper division credits (300-400) in a specific subject will satisfy their VWW requirement if the credits are not part of major requirements.*

Graduation Requirements:

Total credits remaining to reach 120 _____

Upper division credits (300-400 level) to reach 48 _____

Cumulative 2.0 minimum GPA

Notes/TO DO:

Contact Information for Biology Success Center:

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