

5 YR. PROGRAM IN MICROBIOLOGY (BS/MS)

A minimum of 18 units with the following distribution:

1. Core requirements - all 8 units of the following:

- _____ MI 200 *Microbiology* (fall and spring)
- _____ MI 212 *Molecular Microbiology* (fall & spring)
- _____ BI 221 *Biostatistics and Experimental Design* (fall & spring)
- _____ MI 314 *Clinical Microbiology* (odd year spring) (prerequisite: MI 200)
- _____ MI 512 *Applied, Food, and Industrial Microbiology* (spring) (prerequisites: MI 200, BI 221, CH 112)
- _____ MI 521 *Immunology and Serology* (even year fall) (prerequisites: MI 200, CH 211)
- _____ MI 522 *Microbial Genetics* (odd year spring) (prerequisites: MI 200, MI 212, BI 221; CH 211)
- _____ MI 525 *Microbial Physiology* (fall) (prerequisites: MI 200, CH 211)

2. Elective requirements - 2 units chosen from the following:

- _____ MI 216 *General Pathology* (spring) (prerequisite: MI 200 or co-requisite: CH 112)
- _____ MI 291 *Special Topics in Microbiology* (periodically)
- _____ MI 493 *Undergraduate Research I* (prerequisite: Three units of Microbiology and BI 221; permission of the department chair)
- _____ MI 503 *Epidemiology* (even year spring) (prerequisite: MI 200, BI 221)
- _____ MI 513 *Pathogenic Fungi* (odd year fall) (prerequisite: MI 200)
- _____ MI 517 *Electron Microscopy* (offered as required) (prerequisites: MI 212 or BI 213, and CH 111, 112)
- _____ MI 523 *Microbial Ecology* (offered as required) (prerequisites: MI 200, additional unit of MI, CH 112)
- _____ MI 524 *Molecular Biotechnology* (offered as required) (prerequisite: MI 522 or BI 311)
- _____ MI 591 *Special Topics in Microbiology* (periodically)
- _____ CH 517 *Biochemistry I* (fall) (prerequisite: CH 211)

3. Cognate courses - 6 Units in Chemistry and Physics:

- _____ CH 111 *General Chemistry I* (fall)
- _____ CH 112 *General Chemistry II* (spring) (prerequisite: CH 111)
- _____ CH 211 *Organic Chemistry I* (fall) (prerequisites: CH 111, 112)
- _____ CH 212 *Organic Chemistry II* (spring) (prerequisite: CH 211)
- _____ PY 132 *Elements of Physics II* (spring) (prerequisite: PY 131)
- or** _____ PY 141 *General Physics I* (fall) (co-requisite: MA 121)
- _____ PY 142 *General Physics II* (spring) (prerequisite: PY 141, MA 122)

4. One Unit in Math:

_____ MA 121 *Analytic Geometry & Calculus I* (fall)

5. Senior Learning Community for 5 Year Thesis Track

_____ MI 400E *Research for Senior Thesis* (zero units) (fall, spring, summer) (permission of SLC coordinator required)

_____ MI 400 *Senior Thesis* (fall, spring) (prerequisite: MI 400E)

(5 Year Thesis Track students must complete MI400 by the Fall semester of your senior year)

6. Capstone Course:

_____ MI 491 *Recent Advances in Microbiology* (spring) (prerequisites: MI 200, 212, 314, 512, 521, 522, 525 and BI 221) (permission of the instructor)

7. Spring of Senior Year:

_____ MI 797 *Research* (prerequisites: MI 200, 212, 221, 314, 512, 521, 522, 525) (permission of the instructor)

8. 5th Year – Graduate Year – Fall – 15 credits this semester

_____ MI 611 *Medical & Public Health Microbiology* (fall)

_____ MI 700 *Comprehensive Exam*

_____ MI 710 *Graduate Seminar I* (fall)

_____ MI 798 *Thesis Research I* (fall) (prerequisites: MI 797) (*Thesis Track Students only*)

**plus graduate elective courses*

9. 5th Year – Graduate Year – Spring – 13 credits this semester

_____ MI 626 *Advanced Microbial Physiology* (spring) (prerequisites: MI 525)

_____ MI 700 *Comprehensive Exam*

_____ MI 720 *Graduate Seminar II* (spring)

_____ MI 799 *Thesis Research II* (spring) (prerequisites: MI 798) (*Thesis Track Students only*)

**plus graduate elective courses*