M.S. in Microbiology (Plan A)

Course credits
- A minimum of 30 credits is required for graduation of which 20 must be for course work and not thesis credit.
- At least half of these 20 credits must be in the major subject area (MB).
- A minimum of 10 thesis credits must be successfully completed.
- Two-thirds of the minimum 30 credits must be at the 5XX-level. Undergraduate courses at the 4XX-level are allowed but not 3XX-level.
- Credit in Seminar (MB 594), Independent Study (MB 592) and Internship (MB 598) courses in seminar (500), individual problem (570) and internship (576) courses may not exceed 1/3 of credits required.
- Course work more than 6 years old cannot be applied toward the program - see The Graduate School policy on transfer and age of credits (http://www.montana.edu/gradschool/policy).
- Transfer credits – see The Graduate School policy at Transferring Credits.

Pass-fail
No more than 3 credits taken on Pass/Fail basis may be applied to a M.S. program (aside from thesis credits). For more information on Pass/Fail courses, see The Graduate School policy on Pass/Fail.

Core Curriculum
All M.S. students are required to take at least one course in three of the six areas of the core curriculum. The six areas of the core curriculum and the courses which can be used to satisfy the requirement are:

Bioinformatics
- MB 535 Genomic Analysis Lab (Fall) 4
- MB 537 Advance in Molecular Evol (Fall) 3
- MB 544 Advanced Bioinformatics (Spring) 4

Biochemistry
- BCH 543 Proteins (Fall alt odd yrs) 3
- BCH 544 Molecular Biology (Spring alt odd) 3

Immunology
- MB 525 Advanced Immunology (Spring alt even) 3

Microbial evolution & ecology
- MB 515 Microbial Ecology (Spring alt odd) 3
- MB 552 Adv Soil & Env Microbiology (Spring alt even) 3

ERTH 505 Geomicrobiology (Spring alt even) 3

Microbial genetics & physiology
- MB 520 Microbial Physiology (Fall) 3
- MB 528 Advanced Genetics (Spring alt odd) 3
- IMID 505 Eukaryotic Gene Regulation (Spring alt odd) 3

Microbial pathogenesis & epidemiology
- MB 530 Virology (Fall) 3
- MEDS Infectious Diseases and Microbiology (Spring) 5

* Students who will be working with animals in their research are required to take MB 501.

Courses required to fill each area of the core are likely to change as new courses are developed and approved by the Graduate Program Committee. Current course descriptions are available in the MSU On-Line Catalog. Current course availability is found in the MSU On-Line Schedule of Classes.

- MB 594 seminars
  - All students are required to attend and participate in the Departmental Seminar (MB 594 section 01) each semester in residence. [Students who are also members of the Center for Biofilm Engineering will have the option of attending either the Departmental Seminar or the CBE Seminar during their first two years, but must attend at least two semesters of each during this time.]
  - Students are encouraged to register for these each semester, if possible, although there are limits to the number of MB 594 credits allowed in a Graduate Program (3 for M.S.)
  - Have the office staff register you online – there are conflicts when taking multiple MB 594 sections.

- Thesis
  - A thesis approved by the Graduate Committee, Department Head, and the Dean of The Graduate School is required.
  - A hardbound copy of Thesis must be provided to the Microbiology Department for inclusion in the Cotner-Morris library.