

Please read the requirements below that you must follow to graduate. If you have questions about admission, course planning, or registration contact your academic advisor at [mcsadvising@ifas.ufl.edu](mailto:mcsadvising@ifas.ufl.edu).

## Graduation Requirements

- Students must take at least three credits in the final fall/spring (two credits in summer) semester to graduate.
- Thirty credits are required to complete the degree.
- Only courses completed with a grade of C or higher can be counted towards the degree.
- Students must maintain both a 3.0 overall GPA and 3.0 major GPA to graduate.
  - A lower GPA will result in academic probation and possible dismissal from the program
- Fifteen credits must be completed in major courses with a MCB, PCB, or BSC prefix.
- Satisfactorily complete MCB 7922 – Final Literature Review in the last semester of coursework: <http://microbiologyonline.ifas.ufl.edu/student-resources/graduation-info/>

## Required courses

- Students are required to complete the six courses listed below (16 credits):

| Course #  | Course Title                                                       | Credits | Fall | Spring | Summer  |
|-----------|--------------------------------------------------------------------|---------|------|--------|---------|
| MCB 5270  | Antimicrobial Resistance (Pre-Req: microbiology course)            | 3       | ✓    | ✓      |         |
| MCB 6670C | The Microbiome (Pre-Req: microbiology course)                      | 3       |      | ✓      |         |
| MCB 6424  | Probiotics (Pre-Req: microbiology course)                          | 3       |      | ✓      |         |
| MCB 5505  | Virology (Pre-Req: microbiology course)                            | 3       | ✓    | ✓      |         |
| BSC 6895C | AI in Agriculture and Life Sciences (Pre-Req: microbiology course) | 3       | ✓    |        |         |
| MCB 7922  | Final Literature Review (must be taken in final semester)          | 1       | ✓    | ✓      | Sum C** |

- Students are required to complete two of the courses listed below (two credits):

| Course # | Course Title                                                                               | Credits | Fall | Spring | Summer  |
|----------|--------------------------------------------------------------------------------------------|---------|------|--------|---------|
| MCB 6937 | Regulatory Aspects of Microbiome-Based Therapies (Pre-Req: microbiology course)            | 1       | ✓    |        | Sum C** |
| MCB 7922 | Journal Colloquy: Mechanisms of Host/Microbial Interactions (Pre-Req: microbiology course) | 1       | ✓    | ✓      |         |
| MCB 7922 | Journal Colloquy: Virome/Host Interactions (Pre-Req: microbiology course)                  | 1       | ✓    | ✓      |         |
| MCB 7922 | Journal Colloquy: Microbiome Therapeutics/Clinical Trials (Pre-Req: microbiology course)   | 1       | ✓    |        | Sum C** |

## Choose a Track

- Students are required to choose one of two available tracks:
  - Microbiome/Host Interactions Track (6 credits)
  - Microbiome Quantitative Track (6 credits)

### Microbiome/Host Interactions Track (6 credits):

- Students are required to complete the course listed below (three credits):

| Course # | Course Title                              | Credits | Fall | Spring | Summer |
|----------|-------------------------------------------|---------|------|--------|--------|
| PCB 5235 | Immunology (Pre-Req: microbiology course) | 3       |      | ✓      |        |

- Students are required to complete one of the courses listed below (three credits):

| Course # | Course Title                                                         | Credits | Fall | Spring | Summer  |
|----------|----------------------------------------------------------------------|---------|------|--------|---------|
| MCB 5205 | Microbiology of Human Pathogens (Pre-Req: microbiology course)       | 3       | ✓    | ✓      |         |
| MCB 6151 | Prokaryotic Diversity (Pre-Req: microbiology course)                 | 3       |      |        | Sum C** |
| MCB 6407 | Prokaryotic Cell (Pre-Req: courses in microbiology and biochemistry) | 3       | ✓    |        |         |

### Microbiome Quantitative Track (6 credits):

- Students are required to complete two of the courses listed below (five or six credits):

| Course # | Course Title                                                                        | Credits | Fall | Spring | Summer |
|----------|-------------------------------------------------------------------------------------|---------|------|--------|--------|
| MCB 6796 | Microbiological Data Analysis (Pre-Req: microbiology course)                        | 3       | ✓    |        |        |
| MCB 6326 | Computational Genomics and Epigenomics (Pre-Req: microbiology course)               | 3       |      | ✓      |        |
| BSC 6459 | Fundamentals in Bioinformatics (Pre-Req: molecular biology and biochemistry course) | 3       | ✓    |        |        |
| MCB 6318 | Comparative Microbial Genomics (module) (Pre-Req: grade of A- in BSC6459)           | 2       |      | ✓      |        |

- If MCB6318 is selected in the section above, take one of the courses listed below (one credit):

| Course # | Course Title                                                                               | Credits | Fall | Spring | Summer  |
|----------|--------------------------------------------------------------------------------------------|---------|------|--------|---------|
| MCB 6937 | Regulatory Aspects of Microbiome-Based Therapies (Pre-Req: microbiology course)            | 1       | ✓    |        | Sum C** |
| MCB 7922 | Journal Colloquy: Mechanisms of Host/Microbial Interactions (Pre-Req: microbiology course) | 1       | ✓    | ✓      |         |
| MCB 7922 | Journal Colloquy: Virome/Host Interactions (Pre-Req: microbiology course)                  | 1       | ✓    | ✓      |         |
| MCB 7922 | Journal Colloquy: Microbiome Therapeutics/Clinical Trials (Pre-Req: microbiology course)   | 1       | ✓    |        | Sum C** |

## Elective Courses

- Students are required to complete six elective credits
  - Note – module courses are offered during shortened periods throughout the semester

| Course # | Course Title                                                                                                                                | Credits | Fall | Spring | Summer   |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------|---------|------|--------|----------|
| BSC 6459 | Fundamentals in Bioinformatics (Pre-Req: molecular biology and biochemistry course)                                                         | 3       | ✓    |        |          |
| MCB 6796 | Microbiological Data Analysis (Pre-Req: microbiology course)                                                                                | 3       | ✓    |        |          |
| MCB 6407 | Prokaryotic Cell (Pre-Req: courses in microbiology and biochemistry)                                                                        | 3       | ✓    |        |          |
| MCB 6937 | Synthetic Biology (Pre-Req: microbiology course)                                                                                            | 3       | ✓    |        |          |
| MCB 6656 | Environmental Microbiology (Pre-Req: microbiology course)                                                                                   | 3       | ✓    |        |          |
| MCB 6937 | Fundamentals in Molecular Genetics (Highly recommended for those with limited molecular biology background)                                 | 3       | ✓    |        |          |
| MCB 6417 | Microbial Metabolism and Energetics (module) (Pre-Req: biochemistry course)                                                                 | 1       | ✓    |        |          |
| MCB 6095 | Microbiology Careers (Pre-Req: none)                                                                                                        | 1       | ✓    | ✓      | Sum B*** |
| MCB 6096 | Innovation Project Management (Pre-Req: none)                                                                                               | 1       | ✓    | ✓      | Sum B*** |
| MCB 6937 | Advanced Molecular Genetics (Pre-Req: molecular genetics course)                                                                            | 3       |      | ✓      |          |
| MCB 5252 | Microbiology, Immunology & Basis for Immuno-Therapeutics (Highly recommended for those with limited microbiology and immunology background) | 4       |      | ✓      | Sum A*   |
| MCB 6772 | Advanced Topics in Cell Biology (module) (Pre-Req: microbiology course)                                                                     | 1       |      | ✓      |          |
| MCB 6355 | Microbial/Host Defense (module) (Pre-Req: immunology course)                                                                                | 1       |      | ✓      |          |
| MCB 6937 | Methods to Study Prokaryotic Transcriptional Regulation (module) (Pre-Req: microbiology course)                                             | 1       |      | ✓      |          |
| MCB 6318 | Comparative Microbial Genomics (module) (Pre-Req: grade of A- in BSC6459)                                                                   | 2       |      | ✓      |          |
| PCB 6667 | Human Genomics (Pre-Req: microbiology course)                                                                                               | 3       |      | ✓      |          |
| MCB 6326 | Computational Genomics and Epigenomics (Pre-Req: microbiology course)                                                                       | 3       |      | ✓      |          |
| PCB 5235 | Immunology (Pre-Req: microbiology course)                                                                                                   | 3       |      | ✓      |          |
| MCB 5705 | Astrobiology (Pre-Req: microbiology course)                                                                                                 | 3       |      | ✓      |          |
| MCB 6458 | Post Translational Modifications in Microbiology (Pre-Req: microbiology course)                                                             | 2       |      |        | Sum C**  |
| MCB 6151 | Prokaryotic Diversity (Pre-Req: microbiology course)                                                                                        | 3       |      |        | Sum C**  |
| MCB 6937 | Microbial Multicellularity (Pre-Req: passing grade in MCB5205)                                                                              | 2       |      |        | Sum C**  |

## Remedial Courses

- These two courses are required in addition to the standard 30 credits for students who are lacking a foundation in microbiology and/or biochemistry. It will be noted in your admission email if you are required to take either of these courses.

| Course # | Course Title                 | Credits | Fall | Spring | Summer  |
|----------|------------------------------|---------|------|--------|---------|
| MCB 6937 | Biology of Microorganisms    | 3       | ✓    | ✓      | Sum A*  |
| GMS 5905 | Fundamentals in Biochemistry | 4       | ✓    | ✓      | Sum C** |

\* Sum A refers to the first six-week summer session, mid-May through late June

\*\* Sum C refers to the 12-week summer session, mid-May through early August

\*\*\*Sum B refers to the second six-week summer session, early July through early August