



College of Agricultural and Life Sciences
Department of Microbiology and Cell Science

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 mcs-clm@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-four credits are required to complete both MS degree and CLM certificate.
- 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 6900 Final Assessment - Literature Review in the last semester of coursework to fulfill the final exam requirement:
<http://microbiologyonline.ifas.ufl.edu/student-resources/graduation-info/>

Required courses

Students are required to complete all the courses below (25 credits):

Course	Course title	Credits	Fall	Spring	Summer
MCB5252	Microbiology, Immunology & Basis for Immuno-Therapeutics (pre-req: microbiology course)	4		✓	Sum A*
PCB5235	Immunology (pre-req: microbiology course)	3		✓	
MCB5270	AMR (pre-req: microbiology course)	3	✓	✓	
MCB5666	Clinical research, quality control	1	✓	✓	
MCB5256	Clinical Mycology, Virology and Parasitology (pre-req: microbiology course)	3	✓	✓	
MCB5942L	Clinical Microbiology Lab (pre-req: microbiology lab course)	2	✓		✓

MCB5945L	Clinical Experience in Microbiology (pre-req: MCB5942L)	2	✓		✓
BSC6459	Fundamentals in Bioinformatics (Pre-Req: molecular biology or biochemistry course)	3	✓		
BCH5413	Mammalian Molecular Biology and Genetics (Pre-Req: molecular biology or biochemistry course)	3	✓	✓	Sum C**
MCB6900	Final Assessment - Literature Review (must be taken in final semester)	1	✓	✓	Sum C**

- **Students are required to complete at least ONE of the following:**
 - o Note – GMS 6121 and MCB 5205 can both be taken and one can count as an elective

Course	Course title	Credits	Fall	Spring	Summer
MCB5205	Microbiology of Human Pathogens (Pre-Req: microbiology course)	3	✓	✓	
GMS6121	Infectious Disease (Pre-Req: biochemistry course)	3	✓	✓	Sum C**

- **Students are required to complete at least ONE of the following:**
 - o Note – GMS 7133 and MCB 5505 can both be taken and one can count as an elective

Course	Course title	Credits	Fall	Spring	Summer
MCB5505	Virology (Pre-Req: microbiology course)	3	✓	✓	Sum C**
GMS7133	Advanced Molecular Virology (Pre-Req: passing grade in GMS6121)	2	✓	✓	Sum C**

- **Students are required to complete at least ONE of the following:**
 - o Note - taking up to 2 additional journal courses can count as electives (maximum 3 credits total)

Course	Course title	Credits	Fall	Spring	Summer
MCB7922	Journal Colloquy – (topic announced each semester) (Pre-Req: none)	1	✓	✓	Sum C**
GMS7192	Journal Colloquy – Infectious Disease (Pre-Req: none)	1	✓	✓	Sum C**
GMS7192	Journal Colloquy – Bacteriology (Pre-Req: none)	1	✓	✓	Sum C**
GMS7192	Journal Colloquy – COVID-19 (Pre-Req: none)	1	✓	✓	Sum C**

Elective Courses

- Remaining credits must come from elective courses (required and elective credits must total 34 to be eligible to graduate)

- Note – module courses are offered during shortened periods throughout the semester

Course	Course title	Credits	Fall	Spring	Summer
MCB6796	Microbiological Data Analysis (Pre-Req: microbiology course)	3	✓		
BSC6895C	AI in Agriculture and Life Sciences (Pre-Req: microbiology course)	3	✓		
MCB6407	Prokaryotic Cell (Pre-Req: courses in microbiology and biochemistry)	3	✓		
MCB6937	Synthetic Biology (Pre-Req: microbiology course)	3	✓		
MCB6656	Environmental Microbiology (Pre-Req: microbiology course)	3	✓		
MCB6937	Fundamentals in Molecular Genetics (Recommended for those with limited molecular biology background)	3	✓		
MCB6417	Microbial Metabolism and Energetics (module) (Pre-Req: biochemistry course)	1	✓		
MCB6095	Microbiology Careers (Pre-Req: none)	1	✓	✓	Sum B***
MCB6096	Innovation Project Management (Pre-Req: none)	1	✓	✓	Sum B***
GMS6108^	Bacterial Physiology, Antibiotics and Genetics (Pre-Req: grade of B+ in GMS6121)	3	✓	✓	Sum C**
GMS6109^	Advanced Bacteriology (Pre-Req: passing grade in GMS6121)	2	✓	✓	Sum C**
GMS6132	Introductory Gene and Immunotherapy (Pre-Req: passing grade in GMS6121)	2	✓	✓	Sum C**
MCB6937	Regulatory Aspects of Microbiome Research (Pre-Req: MCB6424 or MCB4422)	1	✓		Sum C**
MCB6937	Advanced Molecular Genetics (Pre-Req: molecular genetics course)	3		✓	
MCB6772	Advanced Topics in Cell Biology (module) (Pre-Req: microbiology course)	1		✓	
MCB6355	Microbial/Host Defense (module) (Pre-Req: immunology course)	1		✓	
MCB6318	Comparative Microbial Genomics (module) (Pre-Req: grade of A- in BSC6459)	2		✓	
PCB6667	Human Genomics (Pre-Req: microbiology course)	3		✓	
MCB6326	Computational Genomics and Epigenomics (Pre-Req: microbiology course)	3		✓	
PCB5235	Immunology (Pre-Req: microbiology course)	3		✓	
MCB5705	Astrobiology (Pre-Req: microbiology course)	3		✓	
MCB6424	Probiotics (Pre-Req: microbiology course)	3		✓	
MCB6670C	The Microbiome (Pre-Req: microbiology course)	3		✓	Sum C**
MCB6937	Python Programming (Pre-Req: microbiology course)	3		✓	
MCB6458	Post Translational Modifications in Microbiology (Pre-Req: microbiology course)	2			Sum C**
MCB6151	Prokaryotic Diversity (Pre-Req: microbiology course)	3			Sum C**
MCB6937	Microbial Multicellularity (Pre-Req: passing grade in MCB5205)	2			Sum C**

Replacement courses

Students are required to take one of the following elective courses **IF** they have already taken MCB4271.

Course	Course title	Credits	Fall	Spring	Summer
MCB6796	Analysis, interpretation and visualization of microbiological data (pre-req: microbiology course)	3	✓		
MCB6656	Environmental microbiology (pre-req: microbiology course)	3	✓		
MCB6424	Probiotics (pre-req: microbiology course)	3		✓	
MCB6670C	The Microbiome (pre-req: microbiology course)	3		✓	

Students are required to take the following course **IF** they have already taken PCB4233 or PCB5235.

Course	Course title	Credits	Fall	Spring	Summer
MCB5215	Clinical Immunology (pre-req: microbiology course)	1	✓	✓	

Introductory Course Track

These courses are required in addition to the standard 18 credits for students who are lacking a foundation in biochemistry, microbiology and microbiology laboratory. 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
MCB5305L	Microbiology lab	2			Sum A*
MCB6937	Biology of Microorganisms	3	✓	✓	Sum A*
BCH 5404	Fundamentals of Biochemistry and Molecular Biology	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