

2022-2023 MGM – Coursework Requirements

Year 1 Fall	Year 1 Spring	Year 2 Fall	Year 2 Spring	Year 3	Year 4+
UPGG 778: Modules (6 Credits)	Core Elective (3 Credits)	UPGG 778: Modules (6 Credits)	Spring Discretionary Elective (2-3 Credits)	MGM 790S: Student Seminar (1 Credit)	CTN1: Continuation
CMB 710 Modules (6 Credits)	Spring Discretionary Elective (2-3 Credits)	CMB 710 Modules (6 Credits)	MGM 790S: Student Seminar (1 Credit)		
MGM 701: Foundations of MGM (1 Credit)	MGM 701: Foundations of MGM (1 Credit)	Fall Discretionary Elective (2-3 Credits)	MGM 793: Laboratory Research (2 Credits)		
MGM 790S: Student Seminar (1 Credit)	MGM 790S: Student Seminar (1 Credit)	MGM 702: Grant Writing (3 Credits)			
MGM 793: Laboratory Research (2 Credits)	MGM 793: Laboratory Research (2 Credits)	MGM 790S: Student Seminar (1 Credit)			
		MGM 793: Laboratory Research (2 Credits)			

One selection is required from each of: green, orange, and yellow. MGM requires ≥ 6 UPGG and ≤ 6 CMB modules; a total of 12 modules are required. **Two** selections are required from blue. All grey courses are required as shown.

Course Requirement Details and/or Options

UPGG 778	CMB 710	Core Elective	Spring Discretionary Elective	Fall Discretionary Elective
MGM requires 6 UPGG modules, 12 total	MGM requires 6 CMB modules, 12 total	MGM 732: Human Genetics	MGM 522: Critical Readings in Genetics/Genomics	Additional CMB or UPGG modules
		MGM 552: Virology	Additional Core Elective	Pharm 733: Biostatistics
		MGM 582: Microbial Pathogenesis	Pharm 733: Biostatistics	Imm 601: Immunology of Human Diseases
				Imm 544: Principles of Immunology
				MGM 720: NGS Computational Tools
				Bio 723: Statistical Computing for Biologists
				Sta 601: Bayesian and Modern Statistics
				CBB 520: Genome Tools and Technologies
				BIOCHEM 668: RNA Biology

2022-2023 MGM – Recommended Courses and Timelines: Microbial Pathogenesis Traje

Year 1 Fall	Year 1 Spring	Year 2 Fall	Year 2 Spring	Year 3	Year 4+
UPGG 778: 6 Modules (6 Credits)	MGM 582: Microbial Pathogenesis (3 Credits)	MGM 702: Grant Writing (3 Credits)	Spring Discretionary Elective (2-3 Credits)	MGM 790S: Student Seminar (1 Credit)	CTN1: Continuation
CMB 710: 6 Modules (6 Credits)	Spring Discretionary Elective (2-3 Credits)	MGM 790S: Student Seminar (1 Credit)	MGM 790S: Student Seminar (1 Credit)		
MGM 701: Foundations of MGM (1 Credit)	MGM 701: Foundations of MGM (1 Credit)	MGM 793: Laboratory Research (2 Credits)	MGM 793: Laboratory Research (2 Credits)		
MGM 790S: Student Seminar (1 Credit)	MGM 790S: Student Seminar (1 Credit)	Remaining Modules if Needed			
MGM 793: Laboratory Research (2 Credits)	MGM 793: Laboratory Research (2 Credits)				

All grey courses are required as shown, MGM requires ≥ 6 UPGG modules and ≤ 6 CMB modules for a total of 12

Recommended UPGG Modules: “Genomic Technologies”, “Genetics and Genomics of Infectious Disease”, “The Logic of Genetics”, “Mechanisms of RNA Regulation”, “Genetic Analysis of Human Disease”, “Critical Skills in Scientific Presentation,” “Mouse Genetics and Genomics,” “Exploring the Microbiome,” and others

Recommended CMB Modules: “Bioinformatics and Genomics for Biologists”, “Glycobiology”, “Microscopy in Cell Biology”, “Intersection of Signaling and Therapeutics”, “Protein/Protein Interactions”, “Genetic Switches,” “Nuclear Structure and Gene Regulation”

Recommended Electives: MGM 522: Critical Readings in Genetics and Genomics, MGM 552: Virology, IMM 601: Immunology of Human Diseases, PHARM 733: Biostatistics, MGM 720: NGS Computational Tools, BIOCHEM 668: RNA Biology, MGM 732 Human Genetics

2022-2023 MGM – Recommended Courses and Timelines: Genetics and Genomics Trajectory

Year 1 Fall	Year 1 Spring	Year 2 Fall	Year 2 Spring	Year 3	Year 4+
UPGG 778: 6 Modules (6 Credits)	MGM 732: Human Genetics (3 Credits)	MGM 702: Grant Writing (3 Credits)	Spring Discretionary Elective (2-3 Credits)	MGM 790S: Student Seminar (1 Credit)	CTN1: Continuation
CMB 710: 6 Modules (6 Credits)	Spring Discretionary Elective (2-3 Credits)	MGM 790S: Student Seminar (1 Credit)	MGM 790S: Student Seminar (1 Credit)		
MGM 701: Foundations of MGM (1 Credit)	MGM 701: Foundations of MGM (1 Credit)	MGM 793: Laboratory Research (2 Credits)	MGM 793: Laboratory Research (2 Credits)		
MGM 790S: Student Seminar (1 Credit)	MGM 790S: Student Seminar (1 Credit)	Remaining Modules if Needed			
MGM 793: Laboratory Research (2 Credits)	MGM 793: Laboratory Research (2 Credits)				

All grey courses are required as shown, MGM requires ≥ 6 UPGG modules and ≤ 6 CMB modules for a total of 12

Recommended UPGG Modules: “Genomic Technologies”, “Genetics and Genomics of Ancient, Ancestral, and Extinct Species”, “The Logic of Genetics”, “Genetic Switches”, “Mechanisms of RNA Regulation”, “Computational Genomics”, “Mouse Genetics and Genomics”, “C. elegans Genetics and Genomics”, “Critical Skills in Scientific Presentation”, “Epigenomic Methodologies”

Recommended CMB Modules: “Bioinformatics and Genomics for Biologists”, “Glycobiology”, “Microscopy in Cell Biology”, “Intersection of Signaling and Therapeutics”, “Protein/Protein Interactions”, “Nuclear Structure and Gene Regulation”

Recommended Electives: PHARM 733: Biostatistics, MGM 720: NGS Computational Tools, BIOCHEM 668: RNA Biology

2022-2023 MGM – Recommended Courses and Timelines for the Virology Trajectory

Year 1 Fall	Year 1 Spring	Year 2 Fall	Year 2 Spring	Year 3	Year 4+
UPGG 778: 6 Modules (6 Credits)	MGM 552: Virology (3 Credits)	MGM 702: Grant Writing (3 Credits)	Spring Discretionary Elective (2-3 Credits)	MGM 790S: Student Seminar (1 Credit)	CTN1: Continuation
CMB 710: 6 Modules (6 Credits)	Spring Discretionary Elective (2-3 Credits)	MGM 790S: Student Seminar (1 Credit)	MGM 790S: Student Seminar (1 Credit)		
MGM 701: Foundations of MGM (1 Credit)	MGM 701: Foundations of MGM (1 Credit)	MGM 793: Laboratory Research (2 Credits)	MGM 793: Laboratory Research (2 Credits)		
MGM 790S: Student Seminar (1 Credit)	MGM 790S: Student Seminar (1 Credit)	Remaining Modules if Needed			
MGM 793: Laboratory Research (2 Credits)	MGM 793: Laboratory Research (2 Credits)				

All grey courses are required as shown, MGM requires ≥ 6 UPGG modules and ≤ 6 CMB modules for a total of 12

Recommended UPGG Modules: “Genomic Technologies”, “Genetics and Genomics of Infectious Disease”, “The Logic of Genetics”, “Mechanisms of RNA Regulation”, “Genetic Analysis of Human Disease”, “Critical Skills in Scientific Presentation”

Recommended CMB Modules: “Bioinformatics and Genomics for Biologists”, “Glycobiology”, “Microscopy in Cell Biology”, “Intersection of Signaling and Therapeutics”, “Protein/Protein Interactions”, “Nuclear Structure and Gene Regulation”

Recommended Electives: MGM 582: Microbial Pathogenesis, IMM 601: Immunology of Human Diseases, PHARM 733: Biostatistics, MGM 720: NGS Computational Tools, BIOCHEM 668: RNA Biology