

Molecular and Cell Biology Spring 2023 Courses

Level: E=Elementary, I=Intermediate, A=Advanced (L&S Students need at least 60 credits of I/A)

Be sure to check your DARs and pre-requisites!

For questions, schedule an appointment with the MCB Advisor -Ginny Jackson

Course Number	Credits	Level	Course Title
Math/Statistics			
Math 221	5	I	Calculus & Analytic Geometry I (Lec/Disc)
Math 213	3	I	Calculus and Introduction to Differential Equations (Lec/Disc)
Math 217	3	I	Calculus With Algebra And Trigonometry II (Lec/Disc)
Math 222	4	I	Calculus & Analytic Geometry II (Lec/Disc)
Math 234	4	I	Calculus -Functions of Several Variables (Lec/Disc)
Statistics 301	3	I	Introduction to Statistical Methods (Lec/Disc)
Statistics 371	3	I	Introductory Applied Statistics for Life Sciences (Lec/Disc)

General Chemistry			
Chemistry 103	4	E	General Chemistry I (Lec/Lab/Disc)
Chemistry 104	5	E	General Chemistry II (Lec/Lab/Disc)
Chemistry 116	5	I	Chemical Principles II

Organic Chemistry			
Chemistry 343	3	I	Introductory Organic Chemistry (Lec/Disc)
Chemistry 344	2	I	Introductory Organic Chemistry Lab (Lab/Disc)
Chemistry 345	3	I	Intermediate Organic Chemistry (Lec/Disc)

Physics			
Physics 201	5	I	General Physics (Lec/Lab/Disc)
Physics 202	5	I	General Physics (Lec/Lab/Disc)
Physics 207	5	I	General Physics (Lec/Lab/Disc)
Physics 208	5	I	General Physics (Lec/Lab/Disc)
Physics 247	5	I	A Modern Introduction to Physics (Lec/Lab/Disc)
Physics 248	5	I	A Modern Introduction to Physics (Lec/Lab/Disc)

Introductory Biology			
Biology/Botany/Zoology 151	5	E	Introductory Biology I (Lec/Lab/Disc)
Biology/Botany/Zoology 152	5	E	Introductory Biology II (Lec/Lab/Disc)
Biocore 383	3	I	Cellular Biology (Lec/Disc)
Biocore 384	2	I	Cellular Biology Laboratory (Lab)
Zoology/Biology 101	3	E	Animal Biology (Lec/Disc)
Zoology/Biology 102	2	E	Animal Biology Laboratory (Lab)
Botany/Biology 130	5	E	General Botany (Lec/Lab/Disc)

Breadth Coursework			
Biochemistry 501	3	A	Introduction to Biochemistry (Lec)
Biochemistry 507	3	A	General Biochemistry I (Lec)
Biochemistry 508	3	A	General Biochemistry II (Lec)
Biocore 383	3	I	Cellular Biology (Lec/Disc)
Biocore 587	3	A	Biological Interactions (Lec/Disc)
Genetics 466	3	I	Principles of Genetics (Lec)

Breadth Coursework Cont.			
Genetics 468	3	None	General Genetics 2 (Lec)
Microbio 470	3	I	Microbial Genetics & Molecular Machines (Lec)

Depth Courses			
Biochemistry and Biophysics			
Biochemistry 550	2	A	Topics in Medical Biochemistry (Lec)
Biochemistry 620	3	I	Eukaryotic Molecular Biology (Lec)
Biochemistry 625	2	A	Mechanism of Action of Vitamins and Minerals (Lec)

Cellular Systems			
Zoology 470	3	I	Intro to Animal Development (Lec)
Genetics 627	3	None	Animal Development Genetics (Lec)
Biocore 587	3	A	Biological Interactions (Lec/Disc)

Genetics			
Animal Sciences/Dairy Science 361	2	None	Introduction to Animal and Veterinary Genetics (Lec/Lab)
Agronomy/Horticulture 338	3	I	Plant and Breeding Biotechnology (Lec)
Genetics 520	3	I	Neurogenetics (Lec)
Genetics /Hort 550	3	A	Molecular Approaches in Potential Crop Improvement (Lec/Lab)
Genetics/Biochemistry/Medical Genetics 620	3	I	Eukaryotic Molecular Biology (Lec)
Genetics 627	3	None	Animal Developmental Genetics (Lec)
Genetics 662	3	None	Cancer Genetics (Lec)

Microbiology and Virology			
Microbiology 303	3	I	Biology of Microorganisms (Lec)
Microbiology/Animal Sciences/Botany 335	3	I	The Microbiome of Plants, Animals, and Humans (Lec)
Microbiology/Soil Science 523	3	I	Soil Microbiology and Biochemistry (Lec)
Microbiology 526	3	A	Physiology of Microorganisms (Lec)
Botany/Entomology/Plant Pathology 505	3	A	Plant-Microbe Interactions: Molecular and Ecological Aspects (Lec)
Biochemistry/Medical Microbiology and Immunology 575	2	A	Biology of Viruses (Lec)

Quantitative Biology			
Math/Computer Science 240	3	I	Introduction to Discrete Mathematics (Lec/Disc)
Math 340	3	A	Elementary Matrix and Linear Algebra (Lec/Disc)
Statistics 303	1	I	R For Statistics I (Lec)
Statistics 304	1	I	R For Statistics II (Lec)
Statistics 305	1	I	R For Statistics III (Lec)
Statistics 333	3	A	Applied Regression Analysis (Lec/Disc)
Computer Science 300	3	I	Programming II (Lec)
Computer Science 368	1	I	C++ For Java Programmers (Lec)
Computer Science 540	3	A	Introduction to Artificial Intelligence (Lec)
Microbio 657	3	NONE	Bioinformatics for Microbiologists (Lab)

Laboratory Course			
Chemistry 327	4	I	Fundamentals of Analytical Science (Lec/Disc/Lab)
Chemistry 329	4	I	Fundamentals of Analytical Science (Lec/Disc/Lab)
Computer Sciences 220	4	E	Data Science Programming I (Python) (Lec)
Genetics 545*	2	A	Genetics Laboratory (Lab)
Biochemistry 551*	4	A	Biochemical Methods (Lec/Lab)
Microbiology 304	2	I	Biology of Microorganisms Laboratory (Lab)
Microbiology 657	3	NONE	Bioinformatics for Microbiologists (Lab)
Mol Bio 699**	2	I	Directed Studies (Ind)

*Priority given to Biochemistry or Genetics majors.

**First two credits of Mol Bio 699 go towards Directed/Indp Study, second two credits of Mol Bio 699 go towards Lab requirement

Directed/Independent Study			
Research and Thesis			
Molecular Biology 681	3	A	Senior Honors Thesis I (Ind)
Molecular Biology 682	3	A	Senior Honors Thesis II (Ind)
Molecular Biology 691	3	A	Senior Thesis I (Ind)
Molecular Biology 692	3	A	Senior Thesis II (Ind)
Molecular Biology 699	1-4	A	Directed Studies (Ind)

Visit <https://molecularbio.ls.wisc.edu/thesis-directed-study/> for more info

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