Molecular and Cell Biology Spring 2026 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 -Pang Zoo Lee, on Starfish

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 222	4	I	Calculus & Analytic Geometry II (Lec/Disc)
Math 234	4	I	Calculus -Functions of Several Variables (Lec/Disc)
Statistics 240	4	I	Data Science Modeling I
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	Organic Chemistry I (Lec/Disc)
Chemistry 344	2	I	Introductory Organic Chemistry Lab (Lab/Disc)
Chemistry 345	3	I	Organic Chemistry II (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 (Lec/Lab/Disc)
Biology/Botany/Zoology 152	5	E	Introductory Biology (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)

*Biocore is an honors biology sequence that requires admission to the Bicore program, bicore.wisc.edu

Breadth Coursework			
Biochemistry			
Biochemistry 501	3	A	Introduction to Biochemistry (Lec)
Biochemistry 507	3	A	General Biochemistry I (Lec)

Biochemistry 508	3	A	General Biochemistry II (Lec)
Molecular Biology and Genetics			
Biocore 383*	3	I	Cellular Biology (Lec/Disc)
Biocore 587*	3	A	Biological Interactions (Lec/Disc)
Genetics 466	3	I	Principles of Genetics (Lec)
Genetics 468	3	None	General Genetics 2 (Lec)
Microbio 470	3	I	Microbial Genetics & Molecular Machines (Lec)

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Depth Courses			
Biochemistry and Biophysics			
Biochemistry 560	2	A	Principles of Human Disease and Biotechnology (Lec)
Biochemistry 620	3	I	Eukaryotic Molecular Biology (Lec)

Cellular Systems			
Zoology 444	2	I	Neuronal Cell Biology in Health and Disease
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)
Genetics 520	3	I	Neurogenetics (Lec)
Genetics 527	3	A	Developmental Genetics for Conservation and Regeneration (Lec)
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)
Plant Science 338	3	I	Plant Breeding and Biotechnology
Plant Science 550	3	A	Molecular Approaches for Crop Development

Microbiology and Virology			
Microbiology 303	3	I	Biology of Microorganisms (Lec)
Microbiology 335	3	I	The Microbiome of Plants, Animals, and Humans
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 575	2	none	Biology of Viruses

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)
Computer Science 567	3	A	Medical Image Analysis (Lec)
Microbio 357*, **	3	I	General Microbial Informatics (Lec)
Microbio 657**	3	NONE	Bioinformatics for Microbiologists (Lab)

*Your DARs will need updating, see your advisor for help with that.

** MICROBIO 657 is specifically designed for graduate students and moves at a faster pace, whereas MICROBIO 357 will provide a gentler introduction to bioinformatics for those with little to no background. There is significant overlap with respect to the content of the two courses and thus you would still receive a strong background in bioinformatics

Laboratory Course			
Biochemistry 207*	2	E	Engineering Bacteriophage Laboratory
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)
Microbiology 304	2	I	Biology of Microorganisms Laboratory (Lab)
Microbiology 657	3	NONE	Bioinformatics for Microbiologists (Lab)
Mol Bio 699 OR Approved 699**	2	I	Directed Studies (Ind)
Pharm Sci 254*	3	I	Tiny Earth Genomics -Researching Unculture Antibiotic-Producing Microbes

* Your DARs will need updating, see your advisor for help with that.

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

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

The MCB major is changing our process for research credits!

1. Enroll in your PI's department (Biochem 699, Oncology 699, Medicine 699, etc). Ask your research mentor how to enroll in research credits within their department.
2. Email Dr. Catherine Auger (mcb@ibio.wisc.edu) a paragraph that includes your PI/Lab and info about the research project and your role, highlighting the molecular/cellular side of things. The MCB major will review your paragraph, and if approved, your research credits will count towards the MCB major.

If your lab prefers you to enroll in MolBio 699, that is still available. Visit https://molecularbio.ls.wisc.edu/thesis-directed-study/ for the from that you submit.

Aim to be enrolled in research credits by early in the Spring semester.

Updated 10/17/2025