

UPDATED REQUIREMENTS

For students who declared the major Summer 2020 or later -ask Ginny if you have any questions (vjackson4@wisc.edu)

Molecular and Cell Biology Fall 2021 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 MolBio Advisor

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

Please note: Math 211 is being removed from math course options -it no longer fulfills the pre-req for Physics

General Chemistry			
Chemistry 103	4	E	General Chemistry I (Lec/Lab/Dis)
Chemistry 104	5	E	General Chemistry II (Lec/Lab/Dis)
Chemistry 109	5	E	Advanced General Chemistry (Lec/Lab/Dis)
Chemistry 115	5	I	Chemical Principles I (Lec/Lab/Dis)

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

Physics			
Physics 201	5	I	General Physics (Lec/Lab/Dis)
Physics 202	5	I	General Physics (Lec/Lab/Dis)
Physics 207	5	I	General Physics (Lec/Lab/Dis)
Physics 208	5	I	General Physics (Lec/Lab/Dis)
Physics 24	5	I	A Modern Introduction to Physics (Lec/Lab/Dis)

Introductory Biology			
Biology/Botany/Zoology 151	5	E	Introductory Biology I (Lec/Lab/Dis)
Biology/Botany/Zoology 152	5	E	Introductory Biology II (Lec/Lab/Dis)
Zoology/Biology 101	3	E	Animal Biology (Lec/Dis)
Zoology/Biology 102	2	E	Animal Biology Laboratory (Lab)
Botany/Biology 130	5	E	General Botany (Lec/Lab/Dis)
Biocore 381	3	I	Evolution, Ecology, and Genetics (Lec/Lab/Dis)
Biocore 382	3	I	Evolution, Ecology, and Genetics Lab (Lab/Dis)
Biocore 485	3	I	Principles of Physiology (Lec/Dis)

Breadth Coursework			
Biochemistry 501	3	A	Introduction to Biochemistry (Lec)
Biochemistry 507	3-4	A	General Biochemistry I (Lec)
Zoology 570	3	I	Cell Biology (Lec/Dis)

Breadth Coursework Cont.			
Biocore 381	3	I	Evolution, Ecology and Genetics (Lec/Disc)
Genetics 466	3	I	Principles of Genetics (Lec)
Genetics 467	3	None	General Genetics I (Lec)
Microbio 470	3	I	Microbial Genetics & Molecular Machines (Lec)

Depth Courses			
Biochemistry and Biophysics			
Biochemistry 601	2	A	Protein and Enzyme Structure and Function (Lec)
Biochemistry 612	3	A	Prokaryotic Molecular Biology (Lec)
Biochemistry 621	3	A	Plant Biochemistry (Lec)

Cellular Systems			
Agronomy 340*	3	I	Plant Cell Culture and Genetics Engineering (Lec)
Zoology 523	3	I	Neurobiology (Lec/Dis)
Zoology 630	3	A	Cellular Signal Transduction Mechanisms (Lec)
Oncology 401	2	I	Introduction to Experimental Oncology (Lec)
MM&I/ Path Bio 528	3	I	Immunology (Lec)
NTP 610	4	I	Cellular and Molecular Neuroscience (Lec)
Zoology 400**	3	I	Cell Bio: Neurons Neural Circ (Lec)

*Agronomy 340 has redesigned the course with no lab -this course will no longer count as a lab course

** Make sure you choose the course with this particular title and let Ginny know so she can adjust your DARs

Genetics			
Genetics 520	3	I	Neurogenetics (Lec)
Genetics 565	3	I	Human Genetics (Lec)
Genetics/ Biochem/ Micro 612	3	A	Prokaryotic Molecular Biology (Lec)
Genetics 631	2	A	Plant Genetics (Lec)
Genetics 662	3	None	Cancer Genetics (Lec)

Microbiology and Virology			
Microbiology 303	3	I	Biology of Microorganisms (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)
Oncology 640	3	A	General Virology-Multiplication 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)
Statistics 421	3	A	Applied Categorical Data Analysis (Lec)
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 576	3	A	Intro to Bioinformatics (Lec)

Laboratory Course			
Chemistry 327	4	I	Fundamentals of Analytical Science (Lec/Disc/Lab)
Chemistry 329	4	I	Fundamentals of Analytical Science (Lec/Disc/Lab)
Genetics 545	2	A	Genetics Laboratory (Lab)
Biochemistry 551*	4	A	Biochemical Methods (Lec/Lab)
Biomolecular Chemistry 504	3	A	Human Biochemistry Laboratory (Lab)
Microbiology 304	2	I	Biology of Microorganisms Laboratory (Lab)
Agronomy/ Botany/ Hort 340	3	I	Plant Cell Culture and Genetic Engineering (Lec)

*Priority given to Biochemistry majors. Contact Dr. Lynne Prost if interested.

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)