

# \*\*\*PREVIOUS REQUIREMENTS

MCB Students who declared the Molecular Biology major during Summer 2019 or earlier and have NOT moved to the updated requirements

## 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!

Questions? Contact the MolBio Advisor

Course Number	Credits	Level	Course Title
<b>I.Math/Statistics</b>			
Math 221	5	I	Calculus & Analytic Geometry I (Lec/Disc)
Math 213	3	I	Calculus & Intro to Differential Equations (Lec/Disc)
Math 222	4	I	Calculus & Analytic Geometry II (Lec/Disc)
Statistics 301	3	I	Introduction to Statistical Methods (Lec/Disc)
Statistics 371	3	I	Introductory Applied Statistics for Life Sciences (Lec/Disc)

<b>II.Introductory Chemistry</b>			
Chemistry 103	4	E	General Chemistry I (Lec/Lab/Disc)
Chemistry 104	5	E	General Chemistry II (Lec/Lab/Disc)
Chemistry 109	5	E	Advanced General Chemistry (Lec/Lab/Disc)
Chemistry 115	5	I	Chemical Principles I (Lec/Lab/Disc)

<b>Organic/Analytical Chemistry</b>			
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)
Chemistry 327	4	I	Fundamentals of Analytical Science (Lec/Lab/Disc)
Chemistry 329	4	I	Fundamentals of Analytical Science (Lec/Lab/Disc)

<b>III.Physics</b>			
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)

<b>IV.Introductory Biology &amp; Genetics</b>			
Biology/Botany/Zoology 151	5	E	Introductory Biology I (Lec/Lab/Disc)
Biology/Botany/Zoology 152	5	E	Introductory Biology II (Lec/Lab/Disc)
Genetics 466	3	I	Principles of Genetics (Lec)

<b>Biochemistry</b>			
Biochemistry 501	3	A	Introduction to Biochemistry (Lec)
Biochemistry 507	3	A	General Biochemistry I (Lec)

<b>Molecular Biology</b>			
Agronomy/ Botany/ Hort 340	3	I	Plant Cell Culture and Genetic Engineering (Lec)
Biochem/ Genetics/ Microbio 612	3	A	Prokaryotic Molecular Biology (Lec)
Genetics 545*	2*	A	Genetics Laboratory (Lab)

\*at least 3 credits required to complete the Molecular Biology requirement

**V.Advanced Courses**

6 or more unique credits from at least 2 categories

**Microbiology**

Microbiology 303	3	I	Biology of Microorganisms
Microbiology 304	2	I	Biology of Microorganisms Lab (Lab)
Oncology/ Plant Path 640	3	I/A	General Virology-Multiplication of Viruses (Lec)

**Genetics**

Genetics/ Med Genetics 565	3	I	Human Genetics (Lec)
Microbiology 470	3	I	Microbial Genetics & Molecular Machines

**Cell Biology**

Biochem/ Phmacol-M/ Zool 630	3	I/A	Cellular Signal Transduction Mechanisms (Lec)
MM&I/ Path-Bio 528	3	I	Immunology (Lec)
Psych/ Zool 523	3	I	Neurobiology (Lec/Disc)
Oncology 401	2	I	Introduction to Experimental Oncology (Lec)
Oncology/ Plant Path 640	3	I/A	General Virology-Multiplication of Viruses (Lec)
Zoology 570	3	I	Cell Biology (Lec/Disc)

**Biochemistry and Physical Chemistry**

Biochemistry/ Nutri Sci 510	3	A	Biochemical Princ of Human and Animal Nutrition (Lec)
Biochemistry 551*	4	A	Biochemical Methods (Lec/Lab)*
Chemistry 561	3	A	Physical Chemistry (Lec/Disc)
Chemistry 565	4	A	Biophysical Chemistry (Lec/Disc)

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

**Quantitative and Computation Sciences**

BMI/ Comp Sci 576	3	A	Introduction to Bioinformatics (Lec)
F&W Ecol/Hort/Stat 571	4	I	Statistical Methods for Bioscience I (Lec/Disc)
Statistics 333	3	A	Applied Regression Analysis (Lec/Disc)

**VI.Lab /Research Requirement**

Biochemistry 551 *	4	A	Biochemical Methods* (Lec/Lab)
Genetics 545	2	A	Genetics Lab (Lab)
Microbiology 304	2	I	Biology of Microorganisms Lab
Zoology 555	3	I/A	Laboratory in Developmental Biology (Lab)
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)

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