

# Fall 2014 Molecular Biology Major Courses

1. Mathematics			
Subject Descr	#	Course Title	Credits
MATH	171	Calc with Algebra & Trig I	5
MATH	211	Calculus	5
MATH	213	Calc/Intro-Differntl Equats	3
MATH	221	Calculus&Analytic Geometry	5
MATH	222	Calculus&Analytic Geometry	4
STATISTICS	301	Intro-Statistical Methods	3
STATISTICS	371	Intro Applied Stats-Life Sci	3

2. Chemistry			
a. General and Analytical Chemistry			
Subject Descr	#	Course Title	Credits
CHEMISTRY	103	General Chemistry	4
CHEMISTRY	104	General Chemistry	5
CHEMISTRY	109	Advanced General Chemistry	5
CHEMISTRY	116	Chemical Principles I	5
CHEMISTRY	327	Fundamentals of Analytical Sci	4
CHEMISTRY	329	Fundamentals of Analytical Sci	4

b. Organic Chemistry			
Subject Descr	#	Course Title	Credits
CHEMISTRY	343	Intro Organic Chemistry	3
CHEMISTRY	344	Intro Organic Chemistry Lab	2
CHEMISTRY	345	Intmed Organic Chemistry	3

3. Physics			
Subject Descr	#	Course Title	Credits
PHYSICS	201	General Physics	5
PHYSICS	202	General Physics	5
PHYSICS	207	General Physics	5
PHYSICS	208	General Physics	5

4. Introductory Biology			
a. General Biology and Genetics			
Subject Descr	#	Course Title	Credits
BIOLOGY/ZOOLOGY	101	Animal Biology	3
BIOLOGY/ZOOLOGY	102	Animal Biology Laboratory	2
BIOLOGY/BOTANY	130	General Botany	5
BIO/BOT/ZOO	151	Introductory Biology	5
BIO/BOT/ZOO	152	Introductory Biology	5
BIOCORE	381	Evolution, Ecology, & Genetics	3
BIOCORE	382	Evolution, Ecology, & Genetics Lab	2
BIOCORE	485	Organismal Biology	2
BOTANY/GENETICS/ZOOLOGY	466	General Genetics	3

b. Biochemistry			
Subject Descr	#	Course Title	Credits
BIOCHEMISTRY	501	Introduction-Biochemistry	3
BIOCHEMISTRY	507	General Biochemistry I	3

<b>c. Molecular Biology</b>				
Subject Descr	#	Course Title	Credits	Honors
AGRONOMY/BOTANY/HORTICULTURE	339	Plant Biotech:Prin&Technique I	4	
BIOCHEMISTRY/GENETICS/MICROBIO	612	Prokaryotic Molecular Biol	3	Yes
GENETICS	545	Genetics Laboratory	2	
GENETICS/HORTICULTURE	550	Molec Approach-Crop Improvt	3	

## 5. Advanced Courses

### a. Development

Subject Descr	#	Course Title	Credits	Honors
NEUROSCI/ZOOLOGY	555	Lab-Developmental Biology	3	

### b. Microbiology

Subject Descr	#	Course Title	Credits	Honors
MICROBIOLOGY	303	Biology of Microorganisms	3	
MICROBIOLOGY	304	Biology of Microorganisms Lab	2	
MICROBIO/ONCOLOGY/PLANT PATH	640	Gen Virology-Multiplication	3	Yes

### c. Genetics

Subject Descr	#	Course Title	Credits	Honors
GENETICS/MEDICAL GENETICS	565	Human Genetics	3	Yes
GENETICS/MICROBIO	607	Advanced Microbial Genetics	3	Yes
MICROBIOLOGY	470	Micro Genetics & Mol Machines	3	

### d. Cell Biology (Endocrinology, Neurobiology, Immunology)

Subject Descr	#	Course Title	Credits	Honors
BIOCHEM/PHARMA/ZOOLOGY	630	Cellulr Signal Transductn Mech	3	Yes
MED MICRO/MICROBIO/PATH-BIO	528	Immunology	3	
MED MICRO	341	Immunology	3	
NEUROSCI/PSYCH/ZOOLOGY	523	Neurobiology	3	Yes
ONCOLOGY	401	Intro-Experimental Oncology	2	
ZOOLOGY	570	Cell Biology	3	Yes

### e. Biochemistry and Physical Chemistry

Subject Descr	#	Course Title	Credits	Honors
BIOCHEM/NUTR SCI	510	Biochm Prin-Human&Anml Nutr	3	
BIOCHEMISTRY	651	Biochemical Methods	3	Yes
BIOCHEMISTRY	550	Topics in Medical Biochem	3	Yes
BIOCHEM/BOTANY	621	Plant Biochemistry	3	Yes
CHEMISTRY	561	Physical Chemistry	3	Yes

### f. Quantitative and Computational Sciences

Subject Descr	#	Course Title	Credits	Honors
BIOSTAT/STATISTICS	541	Intro to Biostatistics	3	Yes
BIOSTAT/COMP SCI	576	Introduction to Bioinformatics	3	Yes
F&W ECOL/HORTICULT/STATS	571	Stat Meth for Bioscience I	4	Yes
STATISTICS	333	Applied Regression Analysis	3	

## 6. Lab Courses or Independent Research

Subject Descr	#	Course Title	Credits	Honors
BIOCHEMISTRY	651	Biochemical Methods	3	Yes
MICROBIOLOGY	304	Biology of Microorganisms Lab	2	
MOLECULAR BIOLOGY	681	Senior Honors Thesis	3	
MOLECULAR BIOLOGY	682	Senior Honors Thesis	3	
MOLECULAR BIOLOGY	691	Senior Thesis	3	

MOLECULAR BIOLOGY	692	Senior Thesis	3	
MOLECULAR BIOLOGY	699	Directed Studies-Molec Biol	1 to 4	

Honors in Major? Yes: Indicates that the course automatically counts for Honors in the Major