

# Fall 2012 Molecular Biology Major Courses

## 1. Mathematics

Subject Descr	Number	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	5
STATISTICS	301	Intro-Statistical Methods	3
STATISTICS	371	Intro Applied Stats-Life Sci	3

## 2. Chemistry

### a. General and Analytical Chemistry

Subject Descr	Number	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	Number	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	Number	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	Number	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	301	Evolution, Ecology, & Genetics	3
BIOCORE	302	Evolution, Ecology, & Genetics Lab	2
BIOCORE	323	Organismal Biology	2
BOTANY/GENETICS/ZOOLOGY	466	General Genetics	3

### b. Biochemistry

Subject Descr	Number	Course Title	Credits
BIOCHEMISTRY	501	Introduction-Biochemistry	3
BIOCHEMISTRY	507	General Biochemistry I	3

### c. Molecular Biology

Subject Descr	Number	Course Title	Credits
AGRONOMY/BOTANY/HORTICULTURE	339	Plant Biotech: Prin & Technique I	4
BIOCHEMISTRY/GENETICS/MICROBIO	612	Prokaryotic Molecular Biol	3
BIOCHEMISTRY	711	Sequence Analysis	2
GENETICS	545	Genetics Laboratory	2
GENETICS/HORTICULTURE	550	Molec Approach-Crop Improvt	3

## 5. Advanced Courses

### a. Development

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

### b. Microbiology

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

### c. Genetics

Subject Descr	Number	Course Title	Credits
GENETICS/MEDICAL GENETICS	565	Human Genetics	3
MICROBIOLOGY	470	Micro Genetics & Mol Machines	3

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

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

### e. Biochemistry and Physical Chemistry

Subject Descr	Number	Course Title	Credits
BIOCHEM/NUTR SCI	510	Biochm Prin-Human&Anml Nutr	3
BIOCHEMISTRY	651	Biochemical Methods	3
CHEMISTRY	561	Physical Chemistry	3
CHEMISTRY	565	Biophysical Chemistry	4

### f. Quantitative and Computational Sciences

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

## 6. Lab Courses or Independent Research

Subject Descr	Number	Course Title	Credits
BIOCHEMISTRY	651	Biochemical Methods	3
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