

NOTE: This is just ONE way to arrange the courses needed to fulfill the degree requirements.

Sample Course Sequence for Genetics Major: Genomics Option

■ course should be taken in the indicated semester

		Fall Semester	Spring Semester	
First Year	■	GEN 401 – Professional Perspectives in Genetics	■	BIOL 412 – Intro Biology: Evolution, Biodiversity
	■	BIOL 411 – Intro Biology: Molecular & Cellular	■	MATH 424B – Calculus for Life Sciences
	□	ENGL 401 - First-Year Writing	■	CHEM 404 – General Chemistry
	■	CHEM 403 – General Chemistry	□	Discovery course
	□	Discovery course		
Second Year	■	GEN 604 – Principles of Genetics	■	GEN 606 - Genetics Lab
	□	CHEM 545/546 – Organic Chemistry	■	BMS 503 – General Microbiology
	□	BIOL 528 – Applied Biostatistics	□	Major Elective (Bioscience) ³
	□	Discovery course	□	Discovery course
Third Year	□	BMCB 658/659 - General Biochemistry	□	Genetics Core course ¹
	□	PHYS 401 – Introduction to Physics	□	PHYS 402 – Introduction to Physics
	□	Discovery course	□	BMCB 605 – Eukaryotic Cell & Develop Biology
	□	Elective	□	Discovery course
Fourth Year	□	Major Elective (Pop/Evol Genetics) ²	□	GEN 721 - Comparative Genomics
	□	GEN 711 - Genomics and Bioinformatics	□	Major Elective (Pop/Evol Genetics) ²
	□	GEN 712 - Intro to Perl Programming	□	Capstone
	□	Elective	□	Elective

¹ **Genetics Core** choices GEN 704 **OR** GEN 771 *Genetics of Prokaryotic Microbes* **OR** *Molecular Genetics*

Major Electives

² **Population/Evolutionary Genetics** choices (pick TWO):

GEN 705 **OR** 713 **OR** 715 **OR** 772 *Population Genetics* **OR** *Microbial Ecology and Evolution* **OR** *Molecular Evolution* **OR** *Evolutionary Genetics of Plants*

³ **Bioscience** choices (pick ONE)

BIOL 702	<i>Techniques in Plant Physiology & Biochemistry</i>
BIOL 704	<i>Plant-Microbe Interactions</i>
BIOL 711	<i>Applied Biostatistics II</i>
BMCB 750	<i>Physical Biochemistry</i>
BMCB 753	<i>Cell Culture</i>
BMCB 754	<i>Lab in Biochem & Molec Biol of Nucleic Acids</i>
BMCB 763	<i>Biochemistry of Cancer</i>
BMCB 783	<i>Proteomics for Biological Discoveries</i>
BMCB 794	<i>Protein Structure & Function</i>
BMS 702	<i>Endocrinology</i>
BMS 705	<i>Immunology</i>
BMS 706	<i>Virology</i>
BMS 714	<i>Research Methods in Endocrinology</i>
GEN 704	<i>Genetics of Prokaryotic Microbes</i>
GEN 705	<i>Population & Quantitative Genetics</i>
GEN 706	<i>Human Genetics</i>
GEN 712	<i>Intro to Perl Programming for Bioinformatics</i>
GEN 713	<i>Microbial Ecology and Evolution</i>
GEN 715	<i>Molecular Evolution</i>
GEN 717	<i>Molecular Microbiology</i>
GEN 721	<i>Comparative Genomics</i>
GEN 771	<i>Molecular Genetics</i>
GEN 772	<i>Evolutionary Genetics of Plants</i>
GEN 774	<i>Techniques in Plant Genetic Engineer & Biotech</i>
PBIO 752	<i>Mycology</i>
ZOOL 777	<i>Neurobiology and Behavior</i>