ACADEMIC REQUIREMENTS FOR GENETICS STUDENTS: COURSES

Course Requirements for Ph.D. or M.S. Degree

All students must take a minimum of nine medical school courses\(^a\) divided into two general categories (see below) and register for exactly ten units each quarter (including summer). Students must earn a minimum grade of B- in all nine courses and maintain at least a B average for continuation in the program. Courses that cannot be taken for a letter grade, do not count toward the total of nine courses.

Core Requirements

GENE 200 (Training Camp)
BIOS 200 (Foundations in Experimental Biology)
GENE 205 (Advanced Genetics, Win)
GENE 211 (Genome Biology, Win)
GENE 215 (Frontiers, Fall & Spr) – must register for twice
GENE 218 (Computational Analysis of Biological Information: Intro to Python for Biologist, Spr)
MED 255 (The Responsible Conduct of Research, Aut, Win, Spr) – register early, fills up fast
GENE 219 (Current Issues in Genetics) Each quarter of your first year
HRP 258 (Introduction to Probability and Statistics for Clinical Research, Spring) or STAT 141 (Biostatistics, Fall) or STATS 366 (Computational Statistics, Genetics & Microbiology, Spr)

Other Electives (at least 2 required) such as

GENE 214 (Representations and Algorithms for Computational Molecular Biology, Spr)
GENE 244 (Introduction to Statistical Genetics, Fall, alternate years)
GENE 245 (Computational Algorithms for Statistical Genetics, Spr, alternate years)
GENE 206 (Epigenetics, Win, not every year)
BIO 244 (Molecular Evolution, Spr)
GENE 210 (Personalized Medicine, Spr)
GENE 235 (C. elegans Genetics, Win, alternate years)
BIO 222, BIO 237, BIO 258, CBIO 275, CS 278, PATH 210, DBIO 201, DB 210, GENE 221, GENE 234, IMM 230, STAT 202.

Courses outside the medical school (e.g., CS, STAT) are encouraged and can be applied to the minimum requirement of nine courses.

The statistics requirement counts towards the minimum of nine courses. Students may petition the Graduate Program Director to receive approval for any courses, including statistics, that have been completed elsewhere and that may substitute for required Genetics courses. All such petitions must be submitted no later than Friday of the second week of classes during the quarter in which the course that is the subject of the petition is taught.
Students may petition the Graduate Program Director to receive approval to substitute another computational focused course instead of GENE218

Example first year curriculum

Register for exactly 10 units each quarter. You can fill in with research rotation units to get to 10 units

**Fall – 10 units**
GENE 200 – Training Camp  
BIOS 200 – Foundations in Exp. Bio  
GENE 215 – Frontiers in Biology Rotation  
GENE 219 – Current Issues in Genetics*

**Winter – 10 units**
GENE 211 – Genomics  
GENE 205 – Advanced Genetics  
GENE/MED 255 – The Responsible Conduct of Rotation  
GENE 219 – Current Issues in Genetics*

**Spring – 10 units**
GENE 215 – Frontiers in Biology  
GENE 218 - Computational Analysis of Biological Information: Intro to Python for Biologist  
HRP 258  
Rotation and other electives  
GENE 219 – Current Issues in Genetics*

**Summer – 10 units**
Research units  
GENE 219 – Current Issues in Genetics*

*If it will put you over 10 units do not officially register for, but you will need to attend.