

CURRICULUM WORKSHEET FOR THE MAJOR IN GENETICS

Last Name:

First Name:

RUID:

Email:

Class Year:

Requirement	Course Number	Cr.	Sem/Yr	Grade
Prerequisites - Completed prior to declaring the Genetics Major (Approved AP and transfer credits may be substituted)				
<input type="checkbox"/> General Biology I	01:119:115	4		
<input type="checkbox"/> General Biology II	01:119:116	4		
<input type="checkbox"/> Gen. Biology Lab	01:119:117	2		
<input type="checkbox"/> General Chemistry I	01:160:161 <i>or</i> 01:160:163 (Honors)	4		
<input type="checkbox"/> General Chemistry II	01:160:162 <i>or</i> 01:160:164 (Honors)	4		
<input type="checkbox"/> Calculus I	01:640:135 <i>or</i> 01:640:151	4		
<input type="checkbox"/> Calc. II or Statistics	01:640:136 <i>or</i> 01:640:152 (4 cr) <i>or</i> 01:640:192 <i>or</i> 01:960:401 <i>or</i> 01:960:212 (3 cr) <i>or</i> 01:960:379	3-4		
A. Life Sciences Core – Required: 4 courses (Approved AP and Transfer credits may be substituted)				
<input type="checkbox"/> Intro to Experimentation	01:160:171	1		
<input type="checkbox"/> Organic Chemistry I	01:160:307 <i>or</i> 01:160:315 (Honors)	4		
<input type="checkbox"/> General Physics I	01:750:203 + 205 (lab) <i>or</i> 01:750: 271 + 275 (lab) <i>or</i> 01:750:193 <i>or</i> 01:750 201 (<i>193 & 201 have integrated lab</i>)	4-5		
<input type="checkbox"/> General Physics II	01:750:204 + 206 (lab) <i>or</i> 01:750:272 + 276 (lab) <i>or</i> 01:750:194 <i>or</i> 01:750:202 (<i>194 & 202 have integrated lab</i>)	4-5		
B. Genetics Core – Required: 5 courses for all Genetics Majors (All below courses must be completed at Rutgers)				
<input type="checkbox"/> Genetic Analysis I	01:447:384	4		
<input type="checkbox"/> Genetic Analysis II	01:447:385	4		
<input type="checkbox"/> Lab Course <i>(See Lab Note below)</i>	01:447:315 <i>or</i> 01:447:302 <i>or</i> 01:447:203 <i>or</i> 01:447:303 <i>or</i> 01:694:214 <i>or</i> 01:694:215 <i>or</i> 01:694:316	3		
<input type="checkbox"/> Mol Bio & Biochem.	01:694:395 <i>or</i> 01:694:407	3		
<input type="checkbox"/> Comm. in Genetics	01:447:430 <i>or</i> 01:447:414 <i>and</i> 01:447:415 (<i>Honors, Thesis Writ. – senior year</i>)	3		
C. Genetics Independent Scholarship – Required: 2 courses (6 credits or 12 for honors) 2.8 Minimum GPA to register				
<input type="checkbox"/> Research & Scholar.	01:447:406,407,408,409,410,488,489,490	3-6		
<input type="checkbox"/> Research & Scholar.	01:447:406,407,408,409,410,488,489,490	3-6		
D. Genetics Electives – Required: 3 courses from Genetics (447) courses				
<input type="checkbox"/> Genetics Elective	See attached table (447 courses only). Course:	3		
<input type="checkbox"/> Genetics Elective	See attached table (447 courses only). Course:	3		
<input type="checkbox"/> Genetics Elective	See attached table (447 courses only). Course:	3		
E. Electives <u>OR</u> Independent Scholarship – Required: 2 courses** (additional Genetics Lab may count as an elective)				
<input type="checkbox"/> Research & Scholar.	01:447:406,407,408,409,410,488,489,490. Course:	3-6		
<input type="checkbox"/> Research & Scholar.	01:447:406,407,408,409,410,488,489,490. Course:	3-6		
<input type="checkbox"/> Approved Elective	See attached table. Course:	3-6**		
<input type="checkbox"/> Approved Elective	See attached table. Course:	3		
** Organic Chemistry II + lab= 6 credits counts as one course (see note on second page)				

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A grade of "C" or better is required for graduation for all courses credited towards the major. Genetics major core requirements (i.e., 447:384-385, the lab courses, 694:301, 694:407, 447:430, 447:414-415), electives, and research courses cannot be satisfied by transfer courses. For more information, please refer to the Student Handbook.

Lab Course Notes: 01:694:214 and 01:694:215 are only offered to first-year students with AP Biology credit and AP General Chemistry credits (or taking General Chemistry concurrently). 01:447:203 is only offered to first & second-year students in the SAS Honors Program or the Honors College. Students cannot receive credit for both 01:447:203 and 01:447:302.

IMPORTANT Organic Chemistry note: If you plan to pursue a graduate degree in which a full year of organic chemistry (plus lab) is suggested/required (e.g., medical or dental school), we **strongly recommend** taking Organic Chemistry II + lab as an elective (6 credits).

To find which semester the following courses are offered, see [Schedule of Classes on Genetics website](#).

APPROVED GENETICS ELECTIVES

Elective Course	Course Number	Cr.
Organic Chemistry II + lab**	01:160:308 <i>or</i> 01:160:316 PLUS 01:160:311 <i>or</i> 01:160:313-314	6**
Introduction to Computer Science	01:198:111	4
Data Structures	01:198:112	4
Honors Computational Genetics	01:447:203 (Honors)	3
Analysis of Sci Literature	01:447:216 (Honors)	3
Intro to Cancer	01:447:245	3
Quant Biology & Bioinformatics	01:447:302	3
Computational Genetics for Big Data	01:447:303	3
Introduction to Research in Genetics	01:447:315	3
Soc., Leg., Ethic. Issues Genetics	01:447:354	3
Evolutionary Medicine	01:447:356	3
Developmental Genetics	01:447:370	3
General Microbiology	01:447:390	4
Pathogenic Microbiology	01:447:392	3
Genomes	01:447:451	3
Genetics of Compulsive Behavior	01:447:460	3
Genetic Approaches & Research Analysis	01:447:465	3
Evolutionary Developmental Bio	01:447:470	3
Behavioral & Neural Genetics	01:447:484	3
Molecular Pathways & Sig Trans	01:694:411	3
Proteomics and Functional Genomics	01:694:412	3
Chromatin and Epigenomics	01:694:413	3
Membrane Dynamics in Health and Disease	01:694:420	3
Spec. Top. Mol. Bio. & Biochem.	01:694:421	3
Gene Reg. in Cancer and Development	01:694:492	3
Methods & Applications Mol. Bio.	11:126:427	4
Nucleotide Sequence Analysis	11:126:483	3
Bioinformatics	11:126:485	3
Microbial Genetics & Genomics	11:680:480	3
Human Genetics	16:681:535	3

** If you take Organic Chemistry II, it will meet a Genetics elective requirement ONLY if Organic Chemistry Lab is also taken. See Organic Chemistry note above.