

Genetics Degree Requirements 2009-11 University Bulletin

Updated 4/08

<http://www.public.iastate.edu/~ugradgen/>

Genetics majors are required to complete a certain number of credits to graduate. Specific University, College and Major Requirements are included in this total, which must also be fulfilled. **Students are ultimately responsible for all issues concerning the satisfactory completion of graduation requirements.**

Information in this document is subject to change. See your advisor or the Student Services (103 Bessey) for the most current version.

University Requirements:

English 150	3cr	US Diversity*	3cr
English 250	3cr	Inter. Perspective*	3cr
Library 160	0.5cr		

* LAS Students may use University Requirements to fill College Requirement. See office or advisor for details. CALS students must take one course in US Diversity and one course in International Perspectives, these will not count in the humanities or social science requirements for Ag.

College Requirements:

	<u>LAS</u>	<u>CALS</u>
Foreign Language	8cr**	None
Communications	3cr	3cr (7credits of verbal and written communications for Genetics)
Math	Satisfied or exceeded by Genetics Major Requirements	
Natural Science	Satisfied or exceeded by Genetics Major Requirements	
Arts/Humanities	12cr*	3cr
Social Science	9cr*	3cr
Ethics	None	3cr

**Student who have taken less than 3 years of a foreign language in high school will have a foreign language requirement in the LAS College. Students must place at the 102 level to fulfill this requirement.

Genetics Major Requirements: 33.5-36.5

Genetics 110	Genetics orientation [F]	1cr	
Biology 211/L	Principles of Biology I	4cr	
Biology 212/L	Principles of Biology II	4cr	
Biology 312*	Ecology	4cr	(College of Agriculture only)
Biology 313/L	Principles of Genetics	4cr	
Biology 314/L	Molecular & Cellular Bio	4cr	
Biology 315	Biological Evolution	3cr	
Genetics 409	Molecular Genetics	3cr	
Genetics 410	Analytical Genetics	3cr	
Genetics 462	Evolutionary Genetics	3cr	
Genetics 491	Genetics Seminar	1cr	
Microbiology 302	Biology of Microorganisms	3cr	

Supportive Electives: 6 credits (LAS College) or 9 credits (Agriculture College)

Choose from the following departments:

1. Genetics 340 (Human Genetics) 3 cr, Chemistry 211 and 211L, Statistics 401, 402, 403.
2. All 400 level or above Genetics or *Department of GDCB* courses not used in the major, except 508.
3. All course numbered 300 or above from the following departments:
 - a. Biology (except 304, 307, 308, 355, 356, 366 and non-graded courses)
 - b. Biochemistry, Biophysics and Molecular Biology
 - c. Chemistry
 - d. Microbiology
4. Horticulture 421 (cross listed with Agronomy) or 423.
5. Animal Science 352, 333 or 336.
6. Anthropology 307, 319 or 424.

7. Psychology 310.
8. Genetics students in the LAS College must take a bridge Course that involves humanities and science. This course may count towards one or more college requirement(s) as needed. A list of these courses is available.

Written Communication

Students must earn a C or better.

The following courses are suggested:

English 302-316 -- however 303, 305, 309, 314 recommended

JL MC 347

Supporting Sciences

Chemistry (17 credits)

One year of General Chemistry, one year of Organic Chemistry, at least 3 credits in 400-level Biochemistry plus 3 additional credits.

1. Chem 177/L 5cr + Chem 178/L 4cr + Chem 331/L 4cr + Chem 332/L 4cr
 General I General II Organic I Organic II
2. BBMB 404 or BBMB 420
 Biochemistry Physiological Chemistry
3. BBMB 405 or Chemistry 211/L or BBMB 411
 Biochemistry II Quantitative Analysis Laboratory in Physical Chemistry

Math (11-12 credits)

Option 1: Math 165 (General Calculus I) 4cr + Math 166 (General Calculus II) 4cr + Stat 101 4cr or 104 3cr

Option 2: Math 181 (Calc for Life Science I) 4cr + Math 182 (Calc for Life Sciences II) 4cr + Stat 101 4cr or 104 3cr

Option 3: Stat 101 4cr or 104 3cr + Stat 401 4cr + Math 160 (Survey of Calculus) 4cr

Students must demonstrate competency in algebra and trigonometry either on the ISU Math Placement Exam, the ACT Math subject test or by taking Math 140, 141 or 142. Math 104, 105, 195 and 196 are not accepted by the Biology Program as Math credits.

Physics (8-10 credits)

Option 1: Physics 111 + 112 (General Physics I and II) 4 cr each

Option 2: Physics 221 + 222 (Classical Physics I and II) 5 cr each

For most students Option 1 is sufficient, those students with skill in Calculus and an interest in Physics may choose Option 2.

Important Information:

For information not covered by this bulletin, please see your advisor or the Student Services Office, 103 Bessey.

Credits toward coursework may be obtained during a study abroad or exchange. Planning is critical. See your advisor at least 1 semester prior to the experience.

All biological science (Core and Support Electives) courses in the Genetics major require a grade of C- (C minus) or better.

Students in Genetics must have a minimum C average (2.0) in the major to graduate.

The English proficiency requirement for Genetics is a C or better in English 150, 250 and the advanced writing course.

Minimum graduation requirements for a Genetics degree from Iowa State University include the following:

Minimum of 120 credits for LAS College

Minimum of 128 credits for the CALS College

GPA above or equal to 2.0

The final 32 credits must be taken at ISU or approved.

The LAS College requires 45 credits of 300+ level course work from a 4 yr college.

Courses taken Pass/Not Pass (P/NP) cannot be used to meet area requirements or major or minor requirements and will only count toward graduation as electives.

A minimum of 32 ISU credits (of the 120) are required to graduate from ISU.