Courses used to satisfy the Genetics Option may count for both the additional upper division science electives and the physiology requirement for the Biology major. Consult the Schedule of Classes to confirm course offerings. In addition to the courses below, students in the Honors College can consider taking HC 399 Genetics, Medicine and the Human Condition. Other appropriate coursework may be approved by Brock McLeod. **All courses and prerequisites are subject to change.**

This option emphasizes molecular genetics and is not designed for students interested in genetic counseling. Students interested in genetic counseling should look at individual program requirements for guidance.

It is **strongly recommended** that students interested in genetics research gain experience in an appropriate laboratory setting before graduation.

### Required Courses (23 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Pre(Co)requisites</th>
<th>Term</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BB 493 Biochemistry Laboratory</td>
<td>BB 450 or 490 pre/corequisite</td>
<td>Spring</td>
<td>3</td>
</tr>
<tr>
<td>BB 494 Biochemistry Laboratory</td>
<td>BB 450 or 490 Pre/corequisite</td>
<td>Winter</td>
<td>3</td>
</tr>
<tr>
<td>MB 310 Bacterial Molecular Genetics</td>
<td>MB 302 &amp; BB 450, 451 Pre/corequisite</td>
<td>Winter</td>
<td>3</td>
</tr>
<tr>
<td>MB 311 Writing and Experimental Lab</td>
<td>MB 310 corequisite</td>
<td>Winter</td>
<td>3</td>
</tr>
<tr>
<td>MCB 530 Introduction to Population Genetics</td>
<td>BI 311 ST 351 &amp; 352</td>
<td>Spring</td>
<td>3</td>
</tr>
<tr>
<td>Z 425 Embryology and Development</td>
<td>BI 311 &amp; BI 314 (or BI 314H) Junior standing</td>
<td>Fall</td>
<td>5</td>
</tr>
<tr>
<td>MB 456 Genetics and Biotechnology</td>
<td>(BB 350 or BB 450) and (BB 351 or BB 451) and MB 302 MB 310 corequisite</td>
<td>Winter</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits** 23

1. Check Current Catalog for additional Prerequisites
2. Check Schedule of Classes for current course offerings
Genetics Careers

Genetics is an expanding field with many employment opportunities. Because genetic techniques can be applied to many areas in biotechnology, agriculture, medicine and the life sciences in general, students interested in genetics are advised to explore diverse experiences in genetics as undergraduates. Students serious about a career in genetics should consider graduate work to increase employment opportunities.

Genetics Option students complete 23 additional credits of genetics coursework beyond the major requirements. Consequently, students have a solid foundation for a career in genetics, as well as other areas of biology.

Research, Volunteering and Internships

Professional Experience
Students are strongly encouraged to use the information below as a starting point for exploring their interests in genetics.

Undergraduate Research
Research in genetics is occurring in many units on the OSU campus, and faculty research interests can be found on department websites. The best way to get involved in research is to approach a faculty member you would like to work with after reviewing their website. See http://ib.oregonstate.edu/professional/research-internships for more information.

Students can also look for opportunities to do research at other institutions. The NSF REU (Research Experiences for Undergraduates) program is an excellent and nationally competitive program that generally requires students have some experience. See http://www.nsf.gov/home/crssprgm/reu/ for more information.

Volunteering and Internships
Genetics opportunities exist in a variety of contexts in both the government and public sectors. For opportunities beyond campus students should see the Biomedical, Cell and Molecular Biology, Genetics and Genomics section of the Integrative Biology website at http://ib.oregonstate.edu/professional/internship-research/intern-volunteer-list.

International Opportunities
Many international programs are available through OSU, some of which include specific genetics opportunities, some in the form of internships. These programs can be integrated into a 4-year plan with the Genetics Option. See http://ib.oregonstate.edu/ugfiles/studyabroad.pdf for more information.

Career Resources

- Genetics Professional Societies http://www.kumc.edu/gec/prof/soclist.html
- Integrative Biology careers website https://ib.oregonstate.edu/professional/careers
- National Human Genome Research Institute http://www.genome.gov/
- Oregon Biosciences Association https://www.oregonbio.org/