Guidelines by Major
Effective during the 18-19 Academic Year

To: UC Berkeley
From: College of Marin

18-19 General Catalog Semester
18-19 General Catalog Semester

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Genetics and Plant Biology, Lower Division B.S.

College Admission Requirements for Transfer Students

This major is offered by the College of Natural Resources.

The Genetics and Plant Biology major is housed within UC Berkeley's College of Natural Resources, within the Department of Plant and Microbial Biology. From Oxygen to food to shelter to energy to shade, plants provide us with virtually everything we need to survive and to thrive. Genetics and Plant Biology (GPB) majors study the distribution and diversity of plant life from the sub-molecular to the organismal level. There is momentous work to be done for those who want to unravel the mystery of genes, bring expertise to medical school, educate future biologists, or develop methods to feed the world!

Genetics and Plant biology (GPB) combines traditional plant sciences (physiology, biochemistry, morphology) and more recent biological disciplines (molecular genetics and genomics) to study the role of plants in the global environment. The discipline emphasizes the study of plants from the sub-molecular levels to the organismal level. Relevant applications include biotechnology, bioenergy agriculture, biomedical, food science, bio informatics, and genetic counseling.

PREPARATION FOR TRANSFER AT THE JUNIOR LEVEL

Transfer applicants must complete the minimum admissions requirements by the end of the spring term preceding fall enrollment at Berkeley, and are encouraged to complete as many additional lower division requirements as possible. Exceptions are highly unlikely.

Please pay particular attention to how courses from your community college articulate to Berkeley. If courses for a particular subject are articulated as a group (for example, a 3-course series at your college may articulate to a 2-course series at Berkeley), you will need to take all of the courses noted in order for the articulation to work. If you have questions about articulation, please contact our Office of Instruction and Student Affairs, College of Natural Resources, https://nature.berkeley.edu/advising/meet-cnr-advisors

In general, students will be evaluated on:

- The strength of academic preparation and the completion of lower division requirements in biology, chemistry, and math
- GPA in the required courses
- Cumulative GPA
- The personal statement

MINIMUM ADMISSIONS REQUIREMENTS
To: UC Berkeley, From: College of Marin, 18-19

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Genetics and Plant Biology, Lower Division B.S. (continued)

Equivalent of:

- English R1A and English R1B
- Chemistry 1A and 1AL
- Chemistry 3A and 3AL
- Chemistry 3B and 3BL
- Biology 1A and 1AL
- Biology 1B
- Math 16A (or Math 1A or Math 10A)
- Math 16B (or Math 1B or Math 10B)

Strongly recommended courses:
Physics 8A (or Physics 7A) and Statistics 2 (or Statistics 20) are strongly recommended.

Although IGETC is not required, certification will fulfill requirements for English R1A, English R1B and all Humanities and Social Sciences breadth courses.

AP Credit - We will accept the following AP credit:

- Math 16A = AP Math AB, score of 3, 4, or 5 OR AP Math BC, Score of 3, 4, or 5
- Math 16B = AP Math BC, score of 5
- Chem 1A and 1AL = AP Chemistry, score of 4 or 5
- Physics 8A = AP Physics B, score of 3, 4 or 5
- Statistics Requirement = AP Statistics, score of 3, 4 or 5

Humanities and Social Science AP test scores of 3 or higher may also be counted towards the 15-unit Humanities requirement.

Please note that substituting AP scores for science and math coursework is accepted, but not recommended. Students who use AP scores for these requirements may struggle in subsequent coursework.

Please refer to the College of Natural Resources Handbook website for more information about substitutions for the English R1A and R1B requirements: https://nature.berkeley.edu/handbook

For more information:
GPB Student Academic Advisor
Office of Instruction and Student Affairs
College of Natural Resources
(510) 642-0542
e-mail: cnrteaching@berkeley.edu

http://nature.berkeley.edu/advising/majors/genetics-and-plant-biology

For more information on the College of Natural Resources
http://nature.berkeley.edu

For more information on admission to UC Berkeley:
To: UC Berkeley, From: College of Marin, 18-19

Genetics and Plant Biology, Lower Division B.S. (continued)
http://admissions.berkeley.edu

For more information on majors at UC Berkeley:
Berkeley Academic Guide: http://guide.berkeley.edu

<table>
<thead>
<tr>
<th>LOWER DIVISION MAJOR REQUIREMENTS</th>
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**BIOLOGY**

Must complete biology sequence prior to transferring.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOLOGY 1A</td>
<td>General Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOLOGY 1AL</td>
<td>General Biology Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>BIOLOGY 1B</td>
<td>General Biology (Plant Form &amp; Function, Ecology, Evolution)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 112A</td>
<td>Majors' Biology: Animals, Protozoa, Evolution and Classification</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 112B</td>
<td>Majors' Biology: Plants, Algae, Fungi and Ecology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 112C</td>
<td>Majors' Biology: Molecules, Cells, Prokaryotes and Genetics</td>
<td>5</td>
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</table>

**CHEMISTRY**

Must complete one course in general chemistry + two courses in organic chemistry (and labs) prior to transferring.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>CHEM 1A</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1AL</td>
<td>General Chemistry Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 3A</td>
<td>Chemical Structure and Reactivity</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3AL</td>
<td>Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 3B</td>
<td>Chemical Structure and Reactivity</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3BL</td>
<td>Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 131</td>
<td>General Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 231</td>
<td>Organic Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 232</td>
<td>Organic Chemistry II</td>
<td>5</td>
</tr>
</tbody>
</table>

**MATHEMATICS**

Must complete math courses prior to transferring.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>MATH 16A + MATH 16B OR MATH 1A + MATH 1B OR MATH 10A + MATH 10B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 16A</td>
<td>Analytic Geometry and Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH 16B</td>
<td>Analytic Geometry and Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH 10A + MATH 10B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 1A</td>
<td>Calculus</td>
<td>4</td>
</tr>
</tbody>
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-- OR --

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 121</td>
<td>Calculus I with Applications</td>
<td>3</td>
</tr>
<tr>
<td>MATH 122</td>
<td>Calculus II with Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

-- OR --

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 123</td>
<td>Analytic Geometry and Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH 1B</td>
<td>Calculus</td>
<td>(4)</td>
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-- OR --
Genetics and Plant Biology, Lower Division B.S. (continued)

MATH 10A  Methods of Mathematics: (4)|NO COURSE ARTICULATED
          Calculus, Statistics, and
          Combinatorics

MATH 10B  Methods of Mathematics: (4)|NO COURSE ARTICULATED
          Calculus, Statistics, and
          Combinatorics

PHYSICS

NOTE: It is highly recommended that you complete the Physics requirement prior to transferring. If an equivalent to PHYSCIS 8A is unavailable, student should complete Physics 7A.

Course must have a prerequisite of calculus:

PHYSICS 8A  Introductory Physics (4)|PHYS 108A & PHYS 108AC
          General Physics I (4)
          General Physics I - Calculus Supplement

-- OR --

PHYSICS 7A  Physics for Scientists (4)|PHYS 207A
          and Engineers (5)
          Mechanics and Properties of Matter

NOTE: This institution may cover the topics in Berkeley's PHYSICS 7ABC series in a different order. Students who transfer before completing courses equivalent to the entire 7ABC series may need to enroll in Berkeley's PHYSICS 49 to complete missing topics such as wave motion (7A) or heat (7B).

STATISTICS

NOTE: It is highly recommended that you complete the Statistics requirement prior to transferring.

One course:

STAT 2  Introduction to Statistics (4)|MATH 115 Probability and
       |Statistics (4)
       OR
       STAT 115 Introduction to
       Statistics (4)

OR

STAT 20  Introduction to Probability and Statistics

NOTE: STAT 20 at Berkeley has a prerequisite of one semester of calculus.

HUMANITIES AND SOCIAL SCIENCES BREADTH

At least 15 semester units of UC-transferable courses from fields such as economics, history, philosophy, art, music, political science, and/or foreign language (a maximum of 6 units allowed). (IGETC satisfies this requirement)
### Genetics and Plant Biology, Lower Division B.S. (continued)

**READING & COMPOSITION**

Must complete Reading and Composition requirement prior to transferring.

(IGETC satisfies this requirement)

<table>
<thead>
<tr>
<th>ENGLISH R1A</th>
<th>Reading and Composition (4)</th>
<th>ENGL 150</th>
<th>Reading and Composition (1A) (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGLISH R1B</td>
<td>Reading and Composition (4)</td>
<td>ENGL 151</td>
<td>Reading and Composition (1B) (4)</td>
</tr>
</tbody>
</table>

**OR**

| ENGL 155 | Critical Thinking and Composition (4) |

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**END OF MAJOR**