### Genetics & Plant Biology Major Requirements

#### Lower Division Requirements (all major requirements must be taken for a letter grade)

<table>
<thead>
<tr>
<th>Math &amp; Statistics</th>
<th>Chemistry</th>
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*other stat courses may be approved by dept.*

<table>
<thead>
<tr>
<th>Physics</th>
<th>Biology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ Bio 1B: General Biology [4]</td>
</tr>
<tr>
<td></td>
<td>□ PMB 20 recommended (not required)</td>
</tr>
</tbody>
</table>

**Humanities & Social Sciences**

<table>
<thead>
<tr>
<th>University Requirements</th>
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</thead>
<tbody>
<tr>
<td>□ 15 units of coursework taken from L&amp;S breadth list, excluding biological and physical science courses</td>
</tr>
<tr>
<td>maximum of 6 foreign language units</td>
</tr>
</tbody>
</table>

**American Cultures**

| □ Entry Level Writing |
| □ R1A |
| □ R1B |

**American History**

| □ American History |
| □ American Institutions |

#### Upper Division Core Requirements

| PMB 135: Physiology and Biochemistry of Plants [3] | |

**Plant Biology Tracks:** Choose from Option 1 or 2

Option 1: Choose a track from below and select five courses for a minimum of 15 units.

Option 2 (Experimental Plant Biology Track): Design your own track. Choose any five courses for a minimum of 15 units from the Plant Biology Tracks below.

### Biotechnology and Bioenergy

- PMB C103: Bacterial Pathogenesis [3]
- PMB C112: General Microbiology [4]
- PMB 120/L: Biology of Algae [4]
- PMB 122: Bioenergy [2]
- PMB 142: Plant Genomics and Bioinformatics [2]; must be taken concurrently with C144L
- PMB C148: Microbial Genomics and Genetics [4]
- PMB 170: Modern Applications of Plant Biotechnology [2]
- PMB 180: Environmental Plant Biology [2]
- PMB 185: Techniques in Light Microscopy [3]
- ESPM 108B: Forest Genetics [3]
- ESPM 149: Molecular Ecology [2]
- ESPM 152: Global Change Biology [3]
- IB 117/L: Medical Ethnobotany [4]
- IB 154: Plant Ecology [3]
- IB 163: Molecular and Genomic Evolution [3]
- IB 181: Paleobotany [3]
- PMB H196/199: Research [3-4]

### Plant Diversity and Evolution

- PMB C102L: Diversity of Plants and Fungi [4]
- PMB 110/L: Biology of Fungi [4]
- PMB 113: California Mushrooms [3]
- PMB 120/L: Biology of Algae [4]
- PMB 142: Plant Genomics and Bioinformatics [2]; must be taken concurrently with C144L
- PMB 180: Environmental Plant Biology [2]
- PMB 185: Techniques in Light Microscopy [3]
- ESPM C105: Natural History Museums & Biodiversity Science (3)
- ESPM 108A: Trees: Taxonomy, Growth and Structure (3)
- ESPM 108B: Forest Genetics [3]
- ESPM 149: Molecular Ecology [2]
- ESPM 152: Global Change Biology [3]
- IB 117/L: Medical Ethnobotany [4]
- IB 163: Molecular and Genomic Evolution [3]
- IB 181: Paleobotany [3]
- PMB H196/199: Research [3-4]

### Plant Genetics, Genomics and Bioinformatics

- PMB C134: Chromosome Biology and Cytogenetics (3)
- PMB 142: Plant Genomics and Bioinformatics [2]; must be taken concurrently with C144L
- PMB C144(L): Intro to Protein Informatics [4]; C144L optional (2)
- PMB C148: Microbial Genomics and Genetics [4]
- PMB 165: Plant Microbe Interactions [3]
- PMB 170: Modern Applications of Plant Biotechnology (2)
- PMB 185: Techniques in Light Microscopy [3]
- BioE 131L: Intro to Computational Molecular and Cell Biology [4]
- IB 163: Molecular and Genomic Evolution [3]
- MCB 130A: Cell and Systems Biology [4]
- ESPM C105: Natural Hist. Museums & Biodiversity Science (3)
- ESPM 108B: Forest Genetics [3]
- PMB H196/199: Research [3-4]

### Plant Microbe Interactions

- PMB C102L: Diversity of Plants and Fungi [4]
- PMB C103: Bacterial Pathogenesis [3]
- PMB 110/L: Biology of Fungi [4]
- PMB 112: General Microbiology [4]
- PMB C112L: Lab for General Microbiology [2]
- PMB 113: California Mushrooms [3]
- PMB C114: Comparative Virology [4]
- PMB 116: Microbial Diversity [3]
- PMB 120/L: Biology of Algae [4]
- PMB 142: Plant Genomics and Bioinformatics [2]; must be taken concurrently with C144L
- PMB 180: Environmental Plant Biology [2]
- PMB 185: Techniques in Light Microscopy [3]
- ESPM C105: Natural History Museums & Biodiversity Science (3)
- PMB H196/199: Research [3-4]