### Genetics & Plant Biology Major Requirements

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

<table>
<thead>
<tr>
<th>Math</th>
<th>Chemistry</th>
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#### Statistics

<table>
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<tr>
<th>Biology</th>
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<tbody>
<tr>
<td>other stat courses may be approved by dept.</td>
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<tr>
<td>□ Bio 1A/L: General Biology [5]</td>
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<tr>
<td>□ Bio 1B: General Biology [4]</td>
</tr>
<tr>
<td>□ PMB 20: Current Topics in Plant Biology [1]</td>
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</tbody>
</table>

#### Humanities & Social Sciences

<table>
<thead>
<tr>
<th>Physics</th>
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<tbody>
<tr>
<td>□ 15 units of coursework taken from L&amp;S breadth list, excluding biological and physical science courses maximum of 6 foreign language units</td>
</tr>
<tr>
<td>□ PMB 101L: Experimental Plant Biology Lab [2]</td>
</tr>
<tr>
<td>□ PMB C107L: Principles of Plant Morphology and Lab [5]</td>
</tr>
<tr>
<td>□ PMB 135: Physiology and Biochemistry of Plants [3]</td>
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#### Upper Division Core Requirements

<table>
<thead>
<tr>
<th>Plant Diversity and Evolution</th>
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<tbody>
<tr>
<td>□ PMB 101L: Experimental Plant Biology Lab [2]</td>
</tr>
<tr>
<td>□ PMB 150: Plant Cell Biology [3]</td>
</tr>
<tr>
<td>□ PMB C150: Plant Molecular Genetics [3]</td>
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</tbody>
</table>

#### 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 C124**: Lectures on Energy: Energy from Biomass [3]
- **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]
- **Ene Res C100**: Energy and Society [4]
- **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 102LF**: California Plants [4]
- **IB 117L**: Medical Ethnobotany [4]
- **IB 151**: Plant Physiological Ecology [2]
- **IB 154**: Plant Ecology [3]
- **IB 157**: Ecosystems of California [4]
- **IB 160**: Evolution [4]
- **IB 161**: Population and Evolutionary Genetics [4]
- **IB 162**: Ecological Genetics [4]
- **IB 163**: Molecular and Genomic Evolution [3]
- **IB 168L**: Systematics of Vascular Plants [4]
- **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 131**: Intro to Computational Molecular and Cell Biology [4]
- **BioE 143**: Computational Methods in Biology [4]
- **IB 162**: Ecological Genetics [4]
- **IB 163**: Molecular and Genomic Evolution [3]
- **MCB 102**: Biochemistry and Molecular Biology [4]
- **MCB 130A**: Cell and Systems Biology [4]
- **ESPM 108B**: Forest Genetics [3]
- **PMB H196/199: Research [3-4]

### Plant Microbe Interactions

- **PMB C102L**: Diversity of Plants and Fungi [4]
- **PMB 103**: Plant Cell Biology [5]
- **PMB 110/L**: Biology of Fungi [4]
- **PMB C112**: General Microbiology [5]
- **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 108A**: Trees: Taxonomy, Growth and Structure [3]
- **ESPM 108B**: Forest Genetics [3]
- **ESPM 149**: Molecular Ecology [2]
- **ESPM 152**: Global Change Biology [3]
- **IB 102LF**: California Plants [4]
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