Plant Biology – B.S. – Major Requirements

**Required Courses** (33-36 hours)

**Required Core Courses** (20 hours)

- *(BIOL 1108 - Principles of Biology II (3 hours), BIOL 1108L - Principles of Biology II Laboratory (1 hour)) or *(BIOL 2108H - Principles of Biology II (Honors) (3 hours), BIOL 2108L - Principles of Biology II Laboratory (Honors) (1 hour))*

- **GENE 3000-3000D** - Evolutionary Biology (4 hours) or **GENE 3000H** - Honors Evolutionary Biology (4 hours)

- **GENE 3200-3200D** - Genetics (4 hours) or **GENE 3200H** - Honors Genetics (4 hours)

- **HORT(CRSS) 4430/6430** - Plant Physiology (3 hours) or **HORT(CRSS) 4430E/6430E** - Plant Physiology (3 hours)

- **PBIO 4950** - Capstone Skills in Plant Biology (1 hour)

- **STAT 2000** - Introductory Statistics (4 hours) or **STAT 2100H** - Introduction to Statistics and Computing (Honors) (4 hours) or **BIOS 2010** - Elementary Biostatistics (4 hours)

**Select an Area of Emphasis:**

**Area of Emphasis: Plant Ecology and Environment (14-16 hours)**

- **PBIO 3650-3650L** - Plant Ecology (4 hours)
- **PBIO 4650/6650-4650L/6650L** - Plant Taxonomy (4 hours)

Choose one course from the following:

- **BIOS 3000** - Intermediate Biostatistics for Public Health Sciences (3 hours) or **STAT 3110** - Introduction to Statistics for Life Sciences (3 hours)
- **GEOG 4370/6370-4370L/6370L** - Geographic Information Science (3 hours)
- **HORT 4095/6095** - GPS/GIS Applications for Landscape Managers (3 hours)
- **PBIO 3660L** - Plant Biology Intensive Laboratory (4 hours)

Choose one course from the following:

- **PBIO 4940** - Internship in Plant Biology (3-4 hours)
- **PBIO 4960R** - Faculty-Mentored Undergraduate Research I (1-6 hours) (4 hours)

**Area of Emphasis: Plant Biotechnology and Bioinformatics (14-15 hours)**

- **BCMB 3100** - Introductory Biochemistry and Molecular Biology (4 hours) or **BCMB 3100E** - Introductory Biochemistry and Molecular Biology (4 hours)
- **BINF(PBIO) 4550/6550** - Concepts in Bioinformatics and Omics (3 hours) or **BCMB 3600** - Genomics and Bioinformatics (3 hours) or **GENE 4220L** - Laboratory in Genetic Modeling (3 hours)
- **BTEC(BCMB)(PBIO) 4000L** - Methods in Biotechnology (4 hours) or **PBIO 3660L** - Plant Biology Intensive Laboratory (4 hours)
Choose one course from the following:

- **PBIO 4940** - Internship in Plant Biology (3-4 hours)
- **PBIO 4960R** - Faculty-Mentored Undergraduate Research I (1-6 hours) (4 hours)

**Area of Emphasis: Plants and Microbes (13-16 hours)**

- **PATH 3530-3530L** - Introductory Plant Pathology (3 hours)
- **PATH 4150** - Plant Pathology Undergraduate Seminar (1 hour)

Choose one course from the following:

- **PATH(PBIO) 4200/6200/4200L/6200L** - Mycology (4 hours)
- **MIBO 3500** - Introductory Microbiology (3 hours) or **MIBO 3500E** - Introductory Microbiology (3 hours)

Choose one course from the following:

- **CRSS(MIBO) 4610/6610-4610L/6610L** - Soil Microbiology (3 hours)
- **PBIO 3650-3650L** - Plant Ecology (4 hours)
- **PBIO 3660L** - Plant Biology Intensive Laboratory (4 hours)

Choose one course from the following:

- **PBIO 4940** - Internship in Plant Biology (3-4 hours)
- **PBIO 4960R** - Faculty-Mentored Undergraduate Research I (1-6 hours) (4 hours)

**Major Electives (9-12 hours)**

In consultation with the department adviser, choose three of the following courses not used elsewhere in the major:

- **ANTH(PBIO) 4300/6300-4300L/6300L** - Ethnobotany (4 hours)
- **BCMB 3100** - Introductory Biochemistry and Molecular Biology (4 hours) or **BCMB 3100E** - Introductory Biochemistry and Molecular Biology (4 hours)
- **BCMB 3600** - Genomics and Bioinformatics (3 hours)
- **BCMB(PBIO) 4650/6650** - Concepts in Bioinformatics and Omics (3 hours)
- **BIOS 3000** - Intermediate Biostatistics for Public Health Sciences (3 hours)
- **BTEC(BCMB)(PBIO) 4000L** - Methods in Biotechnology (4 hours)
- **CBIO 3400** - Cell Biology (4 hours)
- **CBIO(PBIO) 4600/6600** - Biology of Protists (3 hours) and **CBIO(PBIO) 4600L/6600L** - Biology of Protists Laboratory (1 hour)
- **CRSS(FANR) 3060** - Soils and Hydrology (3 hours) and **CRSS(FANR) 3060L** - Soils and Hydrology Laboratory (1 hour)
- **CRSS 4450/6450** - Crop Physiology (3 hours)
- **CRSS(HORT)(ECOL) 4590/6590** - Soil Fertility and Plant Nutrition (3 hours) and **CRSS(HORT) 4590L/6590L** - Soil Fertility and Plant Nutrition Laboratory (1 hour)
- **CRSS 4600/6600** - Soil Physics (3 hours) and **CRSS 4600L/6600L** - Soil Physics Laboratory (1 hour)
- **CRSS(MIBO) 4610/6610-4610L/6610L** - Soil Microbiology (3 hours)
- **(ECOL 3500** - Ecology (3 hours), **ECOL 3500L** - Ecology Laboratory (1 hour)) or **(ECOL 3505H** - Ecology (Honors) (3 hours), **ECOL 3505L** - Ecology Honors Laboratory (1 hour))
- **ECOL 4000/6000** - Population and Community Ecology (3 hours)
- **ECOL 4500/6500** - Evolutionary Ecology (4 hours)
- **FANR 4350/6350** - Conservation Genetics (3 hours)
GENE 4220L - Laboratory in Genetic Modeling (3 hours)
GEOG(PBIO) 4220/6220 - Ecological Biogeography (3 hours)
GEOG(PBIO) 4240/6240 - Plant Geography (3 hours)
GEOG 4370/6370-4370L/6370L - Geographic Information Science (3 hours)
HORT(ANTH)(PBIO) 3440 - Herbs, Spices, and Medicinal Plants (3 hours)
HORT 4095/6095 - GPS/GIS Applications for Landscape Managers (3 hours)
HORT(CRSS) 4440/6440-4440L/6440L - Environmental Physiology (4 hours)
MIBO 3500 - Introductory Microbiology (3 hours) or MIBO 3500E - Introductory Microbiology (3 hours)
PATH(ANTH)(PBIO) 3010 - Fungi: Friends and Foes (3 hours)
PATH 3530-3530L - Introductory Plant Pathology (3 hours)
PATH 4150 - Plant Pathology Undergraduate Seminar (1 hour)
PATH(PBIO) 4200/6200-4200L/6200L - Mycology (4 hours)
PBGG(CRSS)(HORT) 4140/6140 - Plant Breeding (3 hours)
PBIO 3270 - Flowers (3 hours)
PBIO 3400 - Plants and Society (3 hours)
PBIO 3600 - Plant Cell and Developmental Biology (4 hours)
PBIO 3650-3650L - Plant Ecology (4 hours)
PBIO 3660L - Plant Biology Intensive Laboratory (4 hours)
PBIO(CRSS) 4500/6500 - Introduction to Gene Technology (3 hours)
PBIO(GENE)(PATH)(BINF) 4510/6510 - Genome Evolution Across the Tree of Life (3 hours)
PBIO(ECOL) 4520/6520 - Plant-Animal Interactions (3 hours)
PBIO 4650/6650-4650L/6650L - Plant Taxonomy (4 hours)
PBIO(BINF)(FANR) 4700/6700 - Computational Plant Science (3 hours)
PBIO(ECOL) 4750/6750 - Tropical Ecology and Conservation (3 hours)
PBIO 4940 - Internship in Plant Biology (3-4 hours)
PBIO 4960 - Independent Research in Plant Biology (4 hours)
PBIO 4960R - Faculty-Mentored Undergraduate Research I (1-6 hours)
PBIO 4970R - Faculty-Mentored Undergraduate Research II (1-6 hours)
STAT 3110
WASR(FORS) 4110/6110-4110L/6110L - Forest Hydrology (4 hours)
WASR 4400-4400L - Introduction to Wetlands (3 hours)