COURSE REQUIREMENTS FOR THE PLANT SCIENCES MAJOR
FOR STUDENTS ENTERING PROGRAM IN SPRING 2015 OR EARLIER

Plant Sciences majors must complete coursework for the college and program, which includes completing a concentration, minor or second major. Coursework in core subjects, including biology, chemistry, statistics and plant biology, should be completed as early as possible.

Course abbreviations and numbers are shown below in red.

**INTRODUCTORY BIOLOGY:** Minimum of 6 credits from one of the following sequences:
- AP Biology credit: score of 4 (4 credits) or 5 (8 credits) + PLHRT 1115: The Nature of Plants (3 credits, spring)
- NOTE: Students scoring a 5 on the AP Biology test who matriculate prior to Fall 2012 are not required to take any introductory biology.
- BIOG 1140: Foundations of Biology (4 credits, fall) + PLHRT 1115: The Nature of Plants (3 credits, spring)

Transfer students who need a course in introductory biology may take:
- PLHRT 1115: The Nature of Plants (3 credits, spring)
- BIOG/BIO 1350: Principles of Cell Developmental Biology (3 credits, fall, spring, summer)
- BIOG 1500: Investigative Biology Laboratory (2 credits, fall, spring, summer)

**GENERAL CHEMISTRY:** Plant science majors must take one semester of introductory chemistry and one semester of organic chemistry. Minimum of 6 credits from one of the following sequences:
- AP Chemistry credit: score of 5 (4 credits) + CHEM 1570 (3 credits, spring, summer) or CHEM 3570 (3 credits, fall, summer)
- CHEM 1560: Introduction to General Chemistry (4 credits, fall, summer) + CHEM 1570: Introduction to Organic and Biological Chemistry (3 credits, spring, summer)
- CHEM 2070: General Chemistry (4 credits, fall, summer) + CHEM 1570: Introduction to Organic and Biological Chemistry (3 credits, spring, summer) or CHEM 3570: Organic Chemistry for the Life Sciences (3 credits, fall, summer)

**STATISTICS:** Plant science majors must take one course in introductory statistics.
- AP Statistics credit: score of 4 or 5 (4 credits) may be used to satisfy the introductory statistics course requirement in Plant Science.
- BTRY 3010/NTRES 3130/STSCI 2200: Biological Statistics I (4 credits, fall). Prereq: one semester of calculus.
- MATH 1710: Statistical Theory and Application in the Real World (4 credits, fall, spring, summer)
- STSCI 2150: Introductory Statistics for Biology (4 credits, fall & spring)

**PLANT BIOLOGY:** Minimum of 8 credits from the following list:
- PLBIO 2410: Introductory Botany and Evolution (3 credits, fall) or PLBIO 2450: Plant Biology (3 credits, summer)
- PLBIO 2420 + 2421: Plant Function and Growth (5 credits, spring) or PLBIO 3420 + 3421: Plant Physiology (5 credits, spring)

In addition to the 8 credits from above, students are strongly encouraged to take one or more of the following courses to strengthen their understanding of form and function in plants:
- PLBIO 3430: Molecular Biology and Genetic Engineering of Plants (2 credits, spring)
- PLBIO 3450: Basic Plant Anatomy (4 credits, fall–even years)
- PLBIO 4620: Plant Biochemistry (3 credits, spring)
- PLBIO 4440: Plant Cell Biology (4 credits, fall–odd years)
- PLSCS 4130: Physiology of Ecology and Yield (3 credits, spring)
**APPLIED PLANT SCIENCE:** Minimum of **3 credits** from this list:
- PLSCS 2110: Field Crop Systems (4 credits, fall)
- PLSCS 3170: Seed Science and Technology (3 credits, fall – odd years)
- PLSCS 4030/IARD 4030: Traditional Agriculture in Developing Nations (1 credit, fall)
- PLSCS 4050: Field Crop Systems (4 credits, fall)
- PLSCS 4140/IARD 4140: Tropical Cropping Systems: Biodiversity, Social, and Environmental Impacts (3 credits, fall)
- PLHRT 3000: Annual and Perennial Plant Identification and Use (3 credits, fall – even years)
- PLHRT 3100: Production & Marketing of Greenhouse Crops (4 credits, spring – odd years)
- PLHRT 3440/VIEN 3440: Viticulture & Vineyard Management (3 credits, spring)
- PLHRT 3500: Principles of Vegetable Production (3 credits, fall – even years)
- PLHRT 4000: Plant Propagation (3 credits, fall)
- PLHRT 4250: Postharvest Biology of Horticultural Crops (2 credits, spring – odd years)
- PLHRT 4251: Postharvest Biology of Horticultural Crops Lab (1 credit, spring – odd years)
- Inactive: PLHRT 4260/NTRES 4260: Practicum in Forest Farming as an Agroforestry System (2 credits, fall)
- PLHRT 4420: Berry Crops: Culture and Management (3 credits, fall – even years)
- PLHRT 4450: Ecological Orchard Management, (3 credits, spring – odd years)
- PLHRT 4551: Mineral Nutrition of Crops & Landscape Plants (3 credits, spring – even years)
- PLHRT 4850: Public Garden Management (3 credits, spring)
- PLHRT 4910/LA 4910: Creating the Urban Eden: Woody Plant Selection, Design & Landscape Establishment (4 credits, fall)
- PLBRG 2010: Plants, Genes, and Global Food Production (3 credits, fall)
- PLBRG 4030: Genetic Improvement of Crop Plants (3 credits, fall)

**ECOLOGY/ENVIRONMENTAL BIOLOGY:** Minimum of **3 credits** from this list:
- BIOEE/BIOG 1610: Ecology and the Environment (3-4 credits, fall, spring, summer)
- BIOEE 2670: Introduction to Conservation Biology (3 credits, fall)
- BIOEE 3690/ENTOM 3690/BIONB 3690: Chemical Ecology (3 credits, spring)
- PLBIO 2300: Global Plant Biodiversity and Vegetation (3 credits, fall – odd years)
- PLSCS 4660: Soil Ecology (4 credits, spring)
- PLHRT 3600: Climate Change and the Future of Food (3 credits, fall)
- PLHRT 4400: Restoration Ecology (5 credits, fall)
- PLHRT 4730/ENTOM 4730: Ecology of Agricultural Systems (3 credits, fall)
- NTRES 2010: Environmental Conservation (3 credits, spring)
- NTRES 4200: Forest Ecology (3 credits, fall)

**GENETICS:** Minimum of **3 credits** from the following list:
- BIOMG 2800: Lectures in Genetics and Genomics (3 credits, fall, spring, summer)
- PLBRG 2250: Plant Genetics (4 credits, spring)

**PLANT-PEST or PLANT-PLANT INTERACTIONS:** Minimum of **3 credits** from this list:
- PLSCS 3150: Weed Biology and Management (4 credits, fall)
- ENTOM 2120: Insect Biology (4 credits, fall)
- Inactive: ENTOM 2410: Applied Entomology in the Field (3 credits, fall)
- ENTOM 4440/PLSCS 4440: Integrated Pest Management (4 credits, spring)
- PLPPM 3010: Biology and Management of Plant Diseases (4 credits, fall)

**SOIL SCIENCE:** Minimum of **4 credits**:
- PLSCS 2600: Soil Science (4 credits, fall)
Other PLSCS courses are also recommended.

**SYSTEMATICS/TAXONOMY, EVOLUTION:** Minimum of **3 credits** from the following list:
- BIOEE 1780: Evolutionary Biology and Diversity (4-5 credits, fall or spring)
- PLBIO 2430: Taxonomy of Cultivated Plants (4 credits, fall – even years)
- PLBIO 2480: Taxonomy of Vascular Plants (4 credits, spring – even years)
- PLBIO 4470: Molecular Systematics (3 credits, spring – even years)
- PLBIO 4400: Phylogenetic Systematics (4 credits, fall – odd years)
- PLBIO 4480: Plant Evolution and the Fossil Record (3 credits, spring – odd years)
- PLHRT 3910: Woody Plant Identification and Use I (2 credits, fall)
- PLPPM 4480/BIOMI 4480: Symbioses: Evolution and Ecology (3 credits, spring)

**What is considered an odd or even year?** For academic year 2015-2016, fall is the odd year and spring, even.