PLANT SCIENCE B.S.

Fall 2018

Course and schedule availability subject to change. Use your APAS report to find your exact requirements.

A. Major Courses (48–52 credits)

____ AGRO1660W First-Year Colloquium (2cr, F/S)
____ FDSY 2101 Plant Production Systems (3cr, S)
____ BIOL 1009 General Biology (4cr, F/S)[B]
____ CHEM 1061 Chemical Principles I (3cr, F/S)[p]
Or CHEM 1081 Chemistry for the Life Sciences (3 cr, F)[p]
____ CHEM 1065 Chemical Principles I Lab (1cr, F/S)[p]
____ BIOL 2022 General Botany (3cr, F/S)
or HORT 1001 Plant Propagation (4cr, F/S)
____ MATH 1142 Short Calculus (4cr, F/S)[M]
or Math 1031, 1051, 1271 or 1241 (3-4c r,F/S)
____ STAT 3011 Intro to Statistical Analysis (4cr, F/S)[M]
or BIOL 3272 Applied Biostatistics (3cr, F/S)
or ESPM 3012 Stat Methods for Env Sci & Mgrs(4cr, S)[M]
____ HORT 1015 Woody and Herbaceous Plants (4cr, F)
____ AGRO 2501 Plant ID:Urban&Rural Landscape(1cr,altF)
or HORT 4110 Spring Flowering Bulbs (1cr,odd S)
or HORT 4111 Prairie Perennials & Grasses(1cr, odd F)
or HORT 4112 Flowering Trees and Shrubs (2cr,alt S)
or HORT 4113 Strange & Unusual Plants: Cultivated Plants with Amazing Adaptations (1cr, even S)
____ HORT 2100 Agricultural Biochemistry (3.0 cr, F)
or BioC 3021 BioChemistry (3 cr, F/S) *prereq Chem 2301, Biol 1009*
____ SOIL 2125 Basic Soil Science (4.0 cr, F/S)[P,E]
____ PLSC 3401 Plant Genetics & Breeding (4 cr,S)
____ CFAN 2333 Insects, Microbes and Plants (3 cr, F)[TS]
____ HORT 4096W Prof. Exp. Program: Internship (2 cr, F)
or AGRO 4096W Prof. Exp. Program: Internship(2cr,F/S)
or AGRO 4097W Undergrad. Res. Thesis (2cr, F/S)
____ PLSC 3005W: Intro to Plant Physiology (4.0 cr, S)

B. Communications (4 credits)

___ Writ 1301 University Writing (4 cr, F/S)[F]

C. Interdisciplinary Learning (3 crs) *select 1 course*

___ Agro 3203W Env, Food Prod & the Citizen[GP] (3cr, S)
or Agro 3305 Agroecosystems of the world[GP] (3 cr, F)
or ApEc 3202 An Introduction to the Food System: Analysis, Management and Design (3cr, S)
or CFAN 1501 Biotechnology, Pple & the Env[TS](3cr,S)
or ESPM 1011 Issues in the Environment[Env] (3 cr, F/S)
or ESPM 3575 Wetlands (3 cr, S)
or FScN 1102 Food:Safety, Risks & Tech[CIV] (3 cr, F/S)
or FW 2001W Intro to Fish, Wildlife & Con Bio (3cr, F)
or GCC 3017 World Food Problems: Agronomics, Economics and Hunger (3 cr, F)[GP]
or Hort 4850 Pollinator Protection in Mgd Land (3 cr, F)
or HORT 5071 Ecological Restoration (4 cr, F)
or PlPa 2003 Plague, Famine, and Beer (3 cr, S)[HIST]

D. PROGRAM OF STUDY (24 credits)

Course Group Description: In consultation with their faculty adviser, students develop a program of study consisting of at least 24 credits, with a minimum of 15 credits at the 3xxx-level or above. Of these 24 credits within the Program of Study, students need to take a minimum of 12 credits of Agro, Ent, Hort or PlPa designators. In addition, all programs of study must include one writing intensive course. The following are course suggestions for various areas of study:

Plant Breeding
Chem 1062: Chemistry Principles II (3 cr, F/S)
Chem 1066 Chemistry Principles II lab (1 cr, F/S)
Chem 2301 Organic Chemistry I (3 cr, F/S)
PLPA 2001 Intro Plant Pathology (3cr, S)
Agro 3660 Plant Genetic Resources (3 cr, even S)
GCD 4034 Molecular Genetics & Genomics (3cr,S)
Hort 4071W Applications of Biotechnology to Plant Improvement (4 cr, odd S)
Agro 5021 Plant Breeding Principles (3cr, F)
Agro 4505 Biology, Ecol & Mgmt of Invasive Plants(3cr,S)
Students interested in the sub-plan for Integrated BS/MS Applied Plant Science – Plant Breeding should visit plantscience.umn.edu or contact your advisor

Agroecology
Chem 1062: Chemistry Principles II (3 cr, F/S)
Chem 1066 Chemistry Principles II lab (1 cr, F/S)
Chem 2301 Organic Chemistry I (3 cr, F/S)
Agro 4505 Biol., Ecology & Mgt of Invasive Plants (3cr, S)
Agro 3203W Environment, Global Food Production, and the Citizen (3 cr, S)[GP,WI] *(if not used for IL course)*
Ent 3925 Insects, Aquatic Habitats, and Pollution (3 cr, F)
HORT 5071 Ecological Restoration (4 cr, F)
PlPa 2001 Introductory Plant Pathology (3 cr, S)
ESPM 3108 Ecology of Managed Systems (3 cr, F)

Horticultural Production
Hort 3131 Student Organic Farm Planning, Growing & Marketing (3cr, F)
Agro 3203W Environment, Global Food Production, and the Citizen (3 cr, S)[GP,WI] *(if not used for IL course)*
Agro 4505 Biol., Ecology & Mgt of Invasive Plants (3cr, S)
Agro 4888 Issues in Sustainable Agriculture (2cr, F)
Ent 1005 Insect Biology (4 cr, F)[B]
PlPa 2001 Introductory Plant Pathology (3 cr, S)
Agro 4605 Management Strategies for Crop Production (3cr, S)
Soil 3416 Plant Nutrients and the Environment (3 cr,S)

Nursery & Floriculture
Hort 4141W Scheduling Crops for Protected Envts(4 cr, F)
Hort 5051Plant Production II (4 cr, S)
Hort 5031 Organic Viticulture & Fruit Production (3cr, F odd yrs)
FNRM 3501 Arboriculture: Selection & Maintenance of Trees (3 cr, S)
PlPa 2001 Introductory Plant Pathology (3 cr, S)
Soil 3416 Plant Nutrients and the Environment (3 cr,S)
Hort 5023 Public Garden Mgmt (2 cr, S, alt yrs)
Hort 4461 Horticultural Marketing (3cr, F)

Turfgrass Science
Hort 4061W Turfgrass Management (3 cr, F)
Hort 4062 Turfgrass Weed and Disease Science (3 cr, F)
Hort 4063 Turfgrass Science (3 cr, S)
Plpa 2001 Introductory Plant Pathology (3 cr, S)
Ent 4015 Ornamentals and Turf Entomology (3 cr, S)
Soil 3416 Plant Nutrients and the Environment (3 cr,S)
Hort 4850 Pollinator Proection Mgd Land (3 cr F) *if not used for IL course*
Agro 4505 Biol., Ecology & Mgt of Invasive Plants (3cr, S)

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Sustainable Plant Health
ENT 1005 Insect Biology (4cr, F)
PlPa 2001 Intro Plant Pathology (3cr, S)
or PlPa 5480 Principles of Plant Pathology (3cr, F)
PlPa 3003 Diseases of Forest and Shade Trees (3cr, S)
Soil 3416 Plant Nutrients in the Environment (3 cr, S)
or ESPM 3612W Soil and Environmental Biology (3cr, F)
Agro 4505 Biol., Ecology & Mgmt of Invasive Plants (3cr, S)
Hort 4850 Pollinator Protection in Mngd Landscapes (3cr, F)
Ent 5341 Biological Control of Insects & Weeds (3cr, odd S)
PlPa 5660 Plant Disease Resistance and Applications (3cr, S)

Agronomy Production
AGRO 1103 Crops, Environment and Society (4 cr, F)
AGRO 4015 Topics in Agronomy (1 cr, F/S)
AGRO 4093 Directed Studies for Adv Students (1 cr, F/S)
AGRO 4505 Biology, Ecology & Mgmt of Invasive Plants(3cr,S)
AGRO 4605 Strategies for Agricultural Production and Management (3cr, F)
CFAN 3001 Pests and Crop Production (3cr, S)
ENT 1005 Insect Biology (4cr, F)
PLPA 2001 Introduction to Plant Pathology (3cr, S)
SOIL 3416 Plant Nutrients and the Environment (3cr, S)
SOIL 4111 Intro to Precision Agriculture (3 cr, S)

* Note: a number of these courses may require additional prerequisites not met through the major. Check the course catalog or consult with your faculty advisor to plan accordingly.

E. Liberal Education Requirements and Themes (21 credits)

Students must complete seven core courses and four (of five) theme courses. Some courses may fulfill both a core and theme requirement.

Completed through required coursework:

_X_ F - Freshman Composition Requirement
_X_ M - Mathematical Thinking Core
_X_ B - Biological Science w/Lab Core
_X_ P - Physical Science w/Lab Core
_X E - Environment Theme
_X_ TS- Technology and Society theme (3 cr)

Possibly completed through required coursework:

___ GP – Global Perspectives Theme (3 cr) *(completed if taken GCC 3017)*

Most likely NOT completed through required coursework:

___ SS – Social Science Core (3 cr)
___ L – Literature Core (3 cr)
___ AH – Arts/ Humanities Core (3 cr)
___ Hist – Historical Perspectives Core (3 cr)
___ DSJ – Diversity and Social Justice in the US Theme (3 cr)
___ CIV – Civic Life and Ethics Theme (3 cr)

F. Writing Intensive Requirements

All four of your WI courses must be a part of your Major Courses (PLSC 3005W, HORT 4096W) and Program of Study.

___completed with Agro 1660W
___completed with PLSC 3005W
___completed with Hort 4096W, Agro 4096W or Agro 4097W
___Program of Study course

G. Free Electives (as needed to reach 120 credits)

Students are encouraged to make choices that strengthen their expertise in an area and/or provide comparative understanding from another culture or discipline. To this end, students should strongly consider using free electives to complete a University minor, study abroad experience, or a student designed content area. Students construct these expertise areas with the help of their faculty advisors.