

PLANT SCIENCE (PLSC)

PLSC 102 The Science of Plants in Agriculture (3 credits)

Principles of structure, biology, and management of agronomic and horticultural crops; interaction of crop plants and cropping systems with environment; current issues related to plant science. Two lectures and one 2-hour lab per week.

PLSC 201 Principles of Horticulture (3 credits)

An introduction to the production and management of edible and ornamental horticultural crops and the maintenance of plants and turf in urban landscapes. Two lectures and two hours of lab per week; two field trips. (Spring, alt/years) Typically Offered: Spring (Odd Years).

Prereqs: PLSC 102

PLSC 204 (s) Special Topics (1-16 credits)

Credit arranged

PLSC 205 General Botany (4 credits)

Growth, development and ecology of plants, fungi, and protists in relation to their environments. Recommended Preparation: CHEM 101 and PLSC 102. (Spring only)

Prereqs: BIOL 114 or BIOL 115.

PLSC 207 Introduction to Biotechnology (3 credits)

Cross-listed with GENE 207

Offers an overview of modern biotechnology, focusing on basic concepts and applications of biotechnology with regards to plants, animals, environment and microorganisms, and medicine. Recommended preparation: CHEM 101 or CHEM 111. (Fall, alt/even years)

PLSC 212 Master Gardener (1-3 credits, max 3)

Basic horticultural skills required for home gardeners and landscapers, including soil, water, and fertility management, composting, pest and disease identification and management, vegetable and fruit culture, ornamentals, plant propagation, and lawn care. Graded P/F. Field trips.

PLSC 300 Plant Propagation (3 credits)

Sexual and asexual propagation techniques of herbaceous and woody ornamental plants; propagation methods covered including seed, cuttings, layering, grafting, and cloning/tissue culture. Two lectures and one 3-hour lab per week. (Alt/years) Typically Offered: Spring (Even Years).

Prereqs: PLSC 102, PLSC 201, or BIOL 115.

PLSC 338 Organic and Conventional Weed Management (4 credits)

Nature and scope of weed problems, identification and biology of weeds, principles, theory, and practice of cultural, mechanical, chemical, and biological control of weeds; legal considerations; integration of methods into functional management systems. Two lectures and one 3-hour lab per week. Recommended Preparation: PLSC 102 or equivalent. Typically Offered: Fall.

PLSC 340 Nursery Management (3 credits)

Management of commercial nurseries from plant propagation through sale of the plants. Cooperative: open to WSU degree-seeking students. (Alt/years)

PLSC 398 (s) Internship (1-6 credits, max 6)

Graded P/F.

Prereqs: Department Permission

PLSC 400 (s) Seminar (1 credit)

PLSC 401 Plant Physiology (3 credits)

Application of physiological principles to the management of plants in agronomic, horticultural, and forest systems. (Spring, alt/even years)

Prereqs: PLSC 205 or BIOL 115 and BIOL 115L or Permission

PLSC 402 Undergraduate Research in Plant Science (1-6 credits, max 6)

This course offers credits to students interested in gaining first-hand experience in today's plant research. Each student will acquire research skills by conducting laboratory or field research on a well-defined topic agreed to by the student and by a faculty supervisor. Students must receive permission from that supervisor prior to enrolling. This course is open to all undergraduates and may be taken multiple times.

Prereqs: PLSC 205

PLSC 404 (s) Special Topics (1-16 credits)

Credit arranged

PLSC 405 (s) Professional Development (1-16 credits)

Credit arranged

PLSC 407 Field Crop Production (3 credits)

Management and use of crops in Idaho and the Northwest.

PLSC 408 Cereal Science (3 credits)

Crop history and biology of major cereal crops, emphasizing cool season cereals. Recommended Preparation: BIOL 115.

PLSC 410 Invasive Plant Biology (3 credits)

Joint-listed with PLSC 510

Biology, ecology, and physiology of weeds with emphasis on crop and weed interactions. Requirements for graduate credit include comprehensive term paper and class presentation on weed-crop interaction. Two lectures and one 3-hour lab per week. Cooperative: open to WSU degree-seeking students. (Alt/years)

PLSC 419 Plant Community Restoration Methods (2 credits)

Students will participate in classroom discussions surrounding topics that are important to modification and implementation of a restoration plan. Students will also participate in practical, hands-on activities during laboratory periods. Those activities include operation of equipment for cultivation and seeding, calibration of herbicide sprayers, calibration of drills, transplanting techniques, monitoring and evaluation of restoration projects, and visits to restoration projects.

Prereqs: REM 221 or equivalent, or Permission.

PLSC 433 Plant Tissue Culture Techniques (3 credits)

Joint-listed with PLSC 533

Laboratory-oriented course involving tissue culture techniques with an emphasis on regenerating herbaceous and woody plant species from organs or tissues. Requirements for graduate credit include completion of a special project and report. One lecture and 5 hours of lab per week. Recommended Preparation: PLSC 300. (Alt/years)

PLSC 438 Pesticides in the Environment (3 credits)

General Education: Senior Experience

Cross-listed with ENT 438, SOIL 438

Principles of pesticide fate in soil, water, and air; pesticide metabolism in plants, pesticide toxicology, and pesticide mode-mechanism of action; pest resistance to pesticides; biotechnology in pest control; regulations and liability; equipment application technology; pesticide transport, storage, and disposal; and social and ethical considerations. Recommended Preparation: CHEM 275.

PLSC 440 Advanced Laboratory Techniques (4 credits)

Cross-listed with GENE 440

Intensive hypothesis-driven laboratory course that will prepare the student for research in molecular biology; emphasis on areas of microbial physiology, microbial genetics, immunology, and pathogenic microbiology. (Spring only)

Prereqs: BIOL 250

PLSC 444 Forage and Grassland Management (3 credits)

Joint-listed with PLSC 544

This course will discuss the biology of plants and the application of agronomic principles to growth, development and management of integrated forage crop and livestock systems. We will focus on pasture and grazing, alfalfa hay, cover crops, and corn silage production, management, storage, and utilization. Special project and report required for graduate credit.

Prereqs: PLSC 205

PLSC 446 Plant Breeding (3 credits)

Joint-listed with PLSC 546

Application of genetic principles to improvement of crop plants. Additional term paper required for graduate credit. (Alt/years)

Prereqs: GENE 314 or equivalent

PLSC 451 Vegetable Crops (3 credits)

Joint-listed with PLSC 551

Production, physiology, storage, and marketing of major and minor vegetable, herb, and spice crops from a worldwide perspective.

Recommended preparation: PLSC 201, PLSC 205, PLSC 300 or equivalents. Cooperative: available to WSU degree-seeking students.

Prereqs: PLSC 102 or equivalent

PLSC 476 Cell Biology (3 credits)

Joint-listed with PLSC 576

Introduction to the organization and function of the major components of the eukaryotic cell; emphasis on the composition of cells, the structures and assembly processes of molecules that make up cells, diversity of cell types found in multicellular organisms, and how common interacting processes are coordinately controlled. Extra oral and/or written assignments required for graduate credit. (Spring, alt/years)

Prereqs: BIOL 115 and either BIOL 300 or BIOL 380

PLSC 480 Field Trip (1 credit, max 3)

Three-day field trip to production areas.

Prereqs: Permission

PLSC 486 Plant Biochemistry (3 credits)

Joint-listed with PLSC 586

An in-depth introduction to metabolic processes carried out by plants, some fungi, and some alga with emphasis on cell wall synthesis, hormone synthesis, and photosynthesis. Extra oral and/or written assignments required for graduate credit. (Spring, alt/years)

Prereqs: BIOL 300 or BIOL 380

PLSC 488 Genetic Engineering (3 credits)

Cross-listed with GENE 488

Joint-listed with GENE 588 and PLSC 588

Techniques and theory underlying practical genetic modifications of plants, microbes, and animals. Extra oral and/or written assignments required for graduate credit. Recommended Preparation: BIOL 380. (Fall only)

Prereqs: GENE 314 or BIOL 310

PLSC 490 Potato Science (3 credits)

Joint-listed with PLSC 590

History, botanical characteristics, seed physiology and production, plant population, physiology of growth, and pest management; factors influencing maturation, harvest, yield, grade, bruise control, storage, and quality maintenance; economics of production and research on a global basis. Comprehensive term paper and class presentation on selected topic required for graduate credit. Cooperative: open to WSU degree-seeking students.

PLSC 498 (s) Internship (1-16 credits)

Credit arranged

PLSC 499 (s) Directed Study (1-16 credits)

Credit arranged

PLSC 500 Master's Research and Thesis (1-16 credits)

Credit arranged

PLSC 501 (s) Seminar (1-16 credits)

Credit arranged

PLSC 502 (s) Directed Study (1-16 credits)

Credit arranged

PLSC 503 (s) Workshop (1-16 credits)

Credit arranged

PLSC 504 (s) Special Topics (1-16 credits)

Credit arranged

PLSC 505 (s) Professional Development (1-16 credits)

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PLSC 542 Biochemistry (3 credits)

Maximum of 7 credits in any combination of BIOL 380, PLSC 542, and BIOL 554. Intermediate biochemistry; introduction to metabolism and the chemical and physical properties of biomolecules. (Fall only)

Prereqs: CHEM 372; BIOL 380 or

Coreqs: CHEM 302 or 306; or Permission

PLSC 544 Forage and Grassland Management (3 credits)

Joint-listed with PLSC 444

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PLSC 597 (s) Practicum (1-16 credits)

Credit arranged

PLSC 598 (s) Internship (1-16 credits)

Credit arranged

PLSC 599 (s) Research (1-16 credits)

Credit arranged. Research not directly related to a thesis or dissertation.

Prereqs: Permission

PLSC 600 Doctoral Research and Dissertation (1-45 credits)

Credit arranged