

Plant Science

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PISc 100 Survey of Plant and Soil Sciences (1-3 cr, max 3)

This course is designed to introduce students to a scientific examination of the soil and plant relationships that affect the production and propagation of field crops and landscape plants. Topics include soils, irrigation, crop and weed identification, diseases, insects and plant growth regulators. (Spring only)

PISc 102 The Science of Plants in Agriculture (3 cr)

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 lec and one 2-hr lab a wk.

PISc 106 Introductory Arboricultural Tree Climbing Techniques (1 cr)

Same as Rec 106. Introduction to the techniques and skills required for arboricultural and recreational tree climbing. Course fee of \$40.00 for equipment.

PISc 201 Principles of Horticulture (3 cr)

An introduction to the production and management of edible and ornamental horticultural crops and the maintenance of plants and turf in urban landscapes. Two lec and two hours of lab a wk; two field trips.

Prereq: PISc 102

PISc 205 General Botany (4 cr)

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

Prereq: Biol 115

PISc 212 Master Gardener (1-3 cr, 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 Pass/Fail. Field trips.

PISc 300 Plant Propagation (3 cr)

Sexual and asexual propagation techniques of herbaceous and woody ornamental plants; propagation methods covered including seed, cuttings, layering, grafting, and cloning/tissue culture. Two lec and one 3-hr lab a wk. (Alt/yr)

Prereq: PISc 102, 201, or Biol 115

PISc 302 Golf and Sports Turf Management (3 cr)

Turfgrass science, cultivation and management for a wide variety of commercial applications. Recommended Preparation: Majoring in Horticultural Sciences or Crop Sciences, or Professional Golf Management.

Prereq: Junior standing

PISc WS310 Pomology (3 cr) WSU Hort 310

Relationships between physiological processes in fruit trees and management decisions necessary for successful commercial production. One 2-day field trip. (Alt/yr)

PISc WS311 Pomology Laboratory (1 cr) WSU Hort 311

Cultural practices and management of deciduous treefruit production.

PISc WS313 Viticulture and Small Fruits (3 cr) WSU Hort 313

PISc WS320 Olericulture--Commercial Vegetable Crops (3 cr) WSU Hort 320

PISc WS334 Controlled Environments for Horticultural Production (3 cr) WSU Hort 334

PISc 338 Weed Control (3 cr)

Nature and scope of weed problems, identification and biology of weeds, principles, theory, and practice of mechanical, chemical, and biological control of weeds; legal considerations; integration of methods into functional management systems. Two lec and one 2-hr lab a wk. Recommended Preparation: PISc 102 or equivalent.

PISc ID340 Nursery Management (3 cr) WSU Hort 340

Management of commercial nurseries from plant propagation through sale of the plants. (Alt/yr)

PISc ID341 Nursery Management Laboratory (1 cr) WSU Hort 341

Lab study relevant to PISc 340. Experiments on and demonstrations of different practices used in nurseries. One 2-hr lab a wk; one 1-day field trip.

Coreq: PISc 340

PISc WS360 World Agricultural Systems (3 cr) WSU CropS and Soils 360

Study of agro-environmental characteristics of world agriculture; historical and contemporary features of world food production.

Prereq: 2 semesters physical or biological sciences

PISc 398 Internship (1-6 cr, max 6)

Graded Pass/Fail.

Prereq: Permission of department

PISc 399 (s) Directed Study (1-2 cr, max 2)

PISc 400 (s) Seminar (1 cr)

PISc 401 Plant Growth and Development (3 cr)

Application of physiological principles to the management of plants in agronomic, horticultural and forest systems. (Spring only)

Prereq: PISc 205

PISc 404 (s) Special Topics (cr arr)

PISc 407 Field Crop Production (3 cr)

Management and use of crops in Idaho and the Northwest.

PISc 408 Cereal Science (3 cr)

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

PISc ID-J410/ID-J510 Biology of Weeds (3 cr) WSU CropS 413/513

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 lec and one 3-hr lab a wk. (Alt/yrs)

PISc WS-J412/WS-J512 Advanced Cropping Systems (3 cr) WSU CropS and PI P 403/503

Modern cropping systems: concepts of crop health management within a cropping systems context; diagnosis and management of biotic and abiotic constraints to crop production; interactions of these constraints; concepts of biological control; integration of biological, physical, and chemical approaches to pests and disease control: role of technological innovations; impact of national and international statutes; agreements and treaties on sustainable growth of crop production. Additional projects/assignments required for graduate credit.

PISc 415 Plant Pathology (3 cr)

Same as For 414. Biology of diseases and disorders of crop, forest, and ornamental plants, with emphasis on plant-microbe interactions and on disease cause, development, diagnosis, and control. Three 1-hr lectures. (Fall only)

Prereq: PISc 102, and MMBB 154, 155 or MMBB 250 (or permission)

PISc 416 Plant Pathology Laboratory (1 cr)

Development of skill and techniques used for the diagnosis, isolation, identification, and characterization of plant pathogenic microorganisms. Recommended Preparation: Familiarity with plant physiology, biological structure of plants and animals, and general agriculture.

Prereq or Coreq: PISc 415 or Permission of instructor

PISc WS418 Post-Harvest Biology and Technology (3 cr) WSU Hort 418

PISc WS-J421/WS-J521 General Mycology (4 cr) WSU PI P 421/521

(Alt/yrs)

PISc ID-J433/ID&WS-J533 Plant Tissue Culture Techniques (3 cr) WSU Hort/CropS 533

Laboratory-oriented course involving tissue culture techniques with an emphasis on regenerating herbaceous and woody plant species from organs or tissues. Requirements for grad cr include completion of a special project and report. One lec and 5 hrs of lab a wk. Recommended Preparation: PISc 300. (Alt/yrs)

PISc 438 Pesticides in the Environment (3 cr)

See Soil 438.

PISc WS439 Ornamental Plant Production (4 cr) WSU Hort 439

Production requirements for spring greenhouse and nursery crop; garden center management considerations. Field trip.

PISc J446/ID-J546 Plant Breeding (3 cr) WSU CropS 546

Application of genetic principles to improvement of crop plants. Grad students reqd to complete additional term paper. (Alt/yrs)

Prereq: Gene 314 or Equivalent

PISc 464 Landscape Maintenance (3 cr)

Use and culture of landscape plants to enhance the environment. Two lec and one 2-hr lab a wk; one 1-day field trip.

Recommended Preparation: Soil 205 and LArc 288. (Alt/yrs)

Prereq: PISc 102 or Biol 213 or Permission

PISc 470 Arboriculture (3 cr)

Arboriculture addresses the science behind tree selection and maintenance practices. Laboratories in each section will provide "hands-on" experiences examining mechanisms of tree growth and survival and the arboricultural tools and practices used to enhance these traits in urban landscapes. Recommended preparation: PISc 464 and/or For 408.

PISc 480 Field Trip (1 cr, max 3)

Three-day field trip to production areas.

Prereq: Permission

PISc 499 (s) Directed Study (cr arr)

PISc 500 Master's Research and Thesis (cr arr)

PISc 501 (s) Seminar (cr arr)

PISc 502 (s) Directed Study (cr arr)

PISc 504 (s) Special Topics (cr arr)

PISc WS506 Epidemiology and Management of Plant Diseases (3 cr) WSU PI P 551

PISc WS507 Plant Transmission Genetics (3 cr) WSU CropS 504

PISc ID510 Biology of Weeds (3 cr)

See PISc J410/J510.

PISc WS511 Viruses and Virus Diseases of Plants (4 cr) WSU PI P 511

(Alt/yrs)

PISc WS512 Advanced Cropping Systems (3 cr)

See PISc J412/J512.

PISc WS515 Molecular Approaches for Improving Crop Quality and Adaptation (3 cr) WSU CropS 505

(Alt/yrs)

PISc ID520 Plant Cytogenetic Techniques (3 cr) WSU CropS 520

Techniques to study plant genes and chromosomes. Two lec and 4 hrs of lab a wk. (Alt/yrs)

Prereq: Gene 314 or Equivalent

PISc WS521 General Mycology (4 cr)

See PISc J421/J521.

PISc ID&WS533 Plant Tissue Culture Techniques (3 cr)

See PISc J433/J533.

PISc WS535 Molecular Genetics of Plant and Pathogen Interactions (3 cr) WSU PI P 535

(Alt/yrs)

PISc ID&WS539 Herbicide Fate and Mode of Action (4 cr) WSU CropS 539

Fate of herbicides in plants, soil, and water; physiological and biochemical mode of herbicide action; mechanisms of herbicide resistance. (Alt/yrs)

Prereq: PISc 338, and MMBB 300 or 380, or Permission

PISc ID546 Plant Breeding (3 cr)

See PISc J446/J546.

PISc ID547 Biometrics for Plant Scientists (3 cr) WSU CropS 547

Use of biometrical techniques in research with particular emphasis on designing, analyzing, and interpreting agricultural and biological experiments; application of statistical methods to biological experiments and problems that may be encountered when applying these techniques to biological systems. (Alt/yrs)

Prereq: PISc 102 and Stat 401 or Equivalent

PISc 597 (s) Practicum (cr arr)

PISc 598 (s) Internship (cr arr)

PISc 599 (s) Non-thesis Master's Research (cr arr)

Research not directly related to a thesis or dissertation.

Prereq: Permission

PISc 600 Doctoral Research and Dissertation (cr arr)