SUSTAINABLE PLANT AND SOIL SYSTEMS (SPSS)

SPSS 1060. The Great American Lawn: History, Culture, and Sustainability. (3 Credits)
Examination of the health, social, cultural, and environmental impacts of the largest irrigated crop in the U.S. CA 2. CA 3.
Content Areas: CA2: Social Science, CA3: Science & Technology
Topics of Inquiry: TOI4: Environmental Literacy, TOI6: Science & Empirical Inq
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%201060)

SPSS 1100. Turfgrass Management. (3 Credits)
An overview of turfgrass adaptation, selection, and management. Topics include turfgrass growth, physiology, soil interactions, establishment, and maintenance. Cultural system practices for lawns, golf courses, athletic fields, and other turf areas. Turfgrass pest management practices for weeds, insects, and diseases. Taught with SAPL 110.
May not be taken out of sequence after passing SPSS 3150.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%201100)

SPSS 1110. Fundamentals of Horticulture. (3 Credits)
Science and practice of horticultural plant propagation and culture. Basic concepts of plant structure, growth and function. Integrated pest management. Impact of new technology. Horticulture and the environment.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%201110)

SPSS 1115. Turfgrass Management Lab. (1 Credit)
Grass establishment, grass identification, athletic field turfgrass playability evaluations, soil testing, turfgrass pest identification, turfgrass pest monitoring techniques, and fertilizer spreader and sprayer calibration.
SPSS 1100, which may be taken concurrently.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%201115)

SPSS 1120. Introduction to Plant Science. (4 Credits)
Basic concepts of plant anatomy and physiology in production of agricultural and horticultural crops. Developmental stages of crop plants from seed through vegetative growth and flowering to harvest. Included topics are mineral nutrition, water relations, photosynthesis, respiration, reproduction, tropisms, climate effects, and breeding and development of improved crop plants. Relationships between the physiology of plants and crop production practices. Taught with SAPL 120.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%201120)

SPSS 1125. Insects, Food and Culture. (3 Credits)
Introduction to the fascinating world of insects and their ubiquitous interactions with people. Role of insects in food and fiber production; insects as food; impact of insects on human health, commerce and history; and insects as inspiration sources for art, music, film and literature around the world. CA 4-INT.
Content Areas: CA4INT: Div & Multi Intl
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%201125)

SPSS 1150. Agricultural Technology and Society. (3 Credits)
Development of agricultural systems and technologies and their influence on societies. Topics include plant and animal domestication, food and industrial crops and centers of production, environmental issues, and agricultural ethics. CA 3.
Content Areas: CA3: Science & Technology
Topics of Inquiry: TOI2: Cultural Dimen Human Exp, TOI5: Indiv Values Soc Inst
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%201150)

SPSS 1300. Introduction to Soil Science. (3 Credits)
Physical and chemical properties of soils; nature and use of fertilizer and liming materials; management of soils for crop production including soil testing, tillage, fertilization practices, and conservation practices. Taught with SAPL 300.
Not open to students who have passed SPSS 2120.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%201300)

SPSS 2100E. Environmental Sustainability of Food Production in Developed Countries. (3 Credits)
Foundations of modern food production systems that produce the majority of calories consumed in North America and other developed countries. Benefits and environmental risks associated with modern food production systems. Alternative food production systems and sustainability. Local food production and food security. Food production and climate change.
Skill Codes: COMP. Environmental Literacy
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%202100E)

SPSS 2110W. Sustainable Plant Pest Management Communication. (1 Credit)
Communication of the impacts, economic importance, identification, and sustainable management of new and emerging plant pests, such as insects, mites, weeds/invasive plants, and diseases of food and non-food (ornamental) crops, in agricultural and landscape settings. Connections with UConn Extension and real-world pest occurrences will be incorporated.
ENGL 1007 or 1010 or 1011 or 2011; open only to Sustainable Plant and Soil Systems, Horticulture, or Turfgrass Science majors.
Skill Codes: COMP. Writing Competency
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%202110W)

SPSS 2120. Environmental Soil Science. (3 Credits)
Introduction to the physical, chemical and biological properties of soils. The relationship between soils and the growth of higher plants. Impact of soils on environmental quality. CA 3.
CHEM 1122 or CHEM 1124Q or CHEM 1127Q or CHEM 1137Q or CHEM 1147Q. May not be taken out of sequence after passing SPSS 3620.
Content Areas: CA3: Science & Technology
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%202120)

SPSS 2125. Soils Lab. (1 Credit)
Basic laboratory analysis of the physical and chemical properties of soil. Includes weekend field trips.
SPSS 2120, which may be taken concurrently.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%202125)

SPSS 2130. Introduction to the Horticulture of Cannabis. (3 Credits)
Fundamentals of the production cycle of Cannabis including horticultural management, identification of crop issues, elite feminized seed production, seed propagation, vegetative propagation, pruning, training, optimization of cannabinoid content, and post-harvest handling. Overviews of Cannabis business operations world-wide and in Connecticut, exploring lab testing procedures, cannabidiol extraction technologies, the Connecticut medical marijuana program, and government regulation of the industry. Taught with SAPL 130.
Recommended preparation: SPSS 1120 or BIO 1110. Not open for credit to students who have passed SPSS 3995 when offered as "Horticulture of Cannabis" or "Horticulture of Cannabis: From Seed to Harvest."
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%202130)

SPSS 2210. Golf Course Management. (3 Credits)
Cultural management techniques including soil aeration, topdressing, mowing, thatch removal, grass or species selection, fertilization, irrigation and management of personnel, pests, equipment and inventory. Field trips required. Taught with SAPL 210.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%202210)

SPSS 2430. Herbaceous Ornamental Plants. (3 Credits)
Identification, nomenclature, cultural requirements and landscape uses of herbaceous perennials, ornamental grasses, ferns, annuals and bulbs. Study of live plants is required. Taught with SAPL 430.
Not open for credit to graduate students.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%202430)

SPSS 2500E. Principles and Concepts of Agroecology. (3 Credits)
Application of ecological processes to modern agricultural production practices. Soil quality and maintenance of soil health and productivity. Ecological management of soils, crops, and livestock systems. Sustainability and enhancement of ecological services within agroecosystems. Taught with SAPL 500.
Recommended preparation: introductory course in plant biology, plant ecology, or environmental science. Not open for credit to students who have passed PLSC 3995 when offered as Agroecology.
Skill Codes: COMP. Environmental Literacy
Topics of Inquiry: TOI4: Environmental Literacy
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%202500E)

SPSS 2520. Floral Art. (2 Credits)
The study of flower arrangement as an art form with emphasis on historical background, artistic principles, color harmony and care of perishable media. Individual expression is encouraged in the creation of floral composition. Taught with SAPL 520.
May not be taken out of sequence after passing SPSS 3530 or HORT 3530.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%202520)

SPSS 2560W. Written Communications in Horticulture. (1 Credit)
Writing as a component of communicating facts and opinions in the theory and practice of Horticulture. Assignments will reflect forms of writing commonly encountered by professional horticulturists, including descriptive brochures, articles for mass media, extension bulletins, and technical manuals.
ENGL 1007 or 1010 or 1011 or 2011; open only to Sustainable Plant and Soil Systems, Horticulture, or Turfgrass Science majors.
Skill Codes: COMP. Writing Competency
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%202560W)

SPSS 3081. Summer Internship Experience. (0 Credits)
Provides opportunity for students to gain practical experience, knowledge, and professional skills in a work environment related to employment and careers in plant science or landscape architecture. Students work with instructor and internship supervisor to develop a learning contract and plan of work to ensure meaningful and educational tasks and experiences. Students taking this course will be assigned a grade of S (satisfactory) or U (unsatisfactory).
May be repeated for credit
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203081)

SPSS 3150. Advanced Turfgrass Management. (3 Credits)
Effects of environmental stresses and turfgrass management practices on growth, development, and physiology of turfgrasses. Implementation of proper management practices to promote optimal turfgrass health under stress conditions.
SPSS 1100. Corequisite: SPSS 2120.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203150)

SPSS 3210. Molecular Laboratory Technology. (3 Credits)
Laboratory technologies for identification and characterization of molecules important for molecular biology research, genetic manipulation and disease diagnosis. Labs will provide hands-on experience performing basic molecular biology techniques, lectures will cover theoretical basis and application.
BIOL 1107 or 1108 or 1110 or equivalent.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203210)

SPSS 3230. Biotechnology - Science, Application, Impact, Perception. (3 Credits)
Scientific, legal, and ethical aspects of Biotechnology application in agriculture, health medicine, forensics, and the environment. Designed for students with diverse departmental affilitations.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203230)

SPSS 3245. Plant Breeding and Biotechnology. (3 Credits)
Principles and applications, economic, social and environmental impacts, advantages, potentials and limitations of major traditional and modern plant breeding technologies including crossing/hybridization, mutagenesis, genetic engineering and genome editing.
One of BIOL 1102, 1108, or 1110; or MCB 2410; or SPSS (or PLSC) 3210, 3230, or 4210.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203245)

SPSS 3255. Modern and Traditional Plant Breeding Techniques. (3 Credits)
Hands-on experiments for traditional and modern plant breeding techniques, including artificial crossing/hybridization, polyploidy induction, plant tissue culture and transgenic plant production, and radiation- and genome editing-mediate mutagenesis.
One of BIOL 1102, 1108, or 1110; or MCB 2410; or SPSS 3210 (PLSC 3210) , 3230 (PLSC 3230), 3245, or 4210 (PLSC 4210).
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203255)

SPSS 3300. Principles of Turfgrass Irrigation Systems. (3 Credits)
Turfgrass irrigation systems, principles of hydraulics, irrigation components, design, installation and repair. Students will design irrigation systems for various turf areas. Field trips and fieldwork will be required. Taught with SAPL 230.
Not open for credit to graduate students.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203300)

SPSS 3400. Professional Development for Turfgrass Industries. (2 Credits)
Topics include human resource information, communication skills, turfgrass pesticide laws and compliance, labor laws and compliance, bid specifications, resume writing, interviewing, golf course management structures, business ethics, and benefits of professional association membership. Guest lecturers include industry professionals and representatives. Taught with SAPL 240.
Not open for credit to graduate students.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203400)

SPSS 3410. Woody Plants: Common Trees, Shrubs and Vines. (3 Credits)
Taxonomy, identification, ornamental characteristics, cultural requirements and landscape use of deciduous and evergreen woody plants most often utilized in landscapes of the northeastern United States and similar environs. Taught with SAPL 410.
Recommended preparation: BIOL 1110.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203410)

SPSS 3420. Soil Chemistry Components. (4 Credits)
(Also offered as ENVE 3240.) Basic concepts of the physical chemistry of soil constituents. Topics include soil atmospheres, soil solutions, soil organic matter, soil mineralogy, and surface characteristics and analysis. Lab exercises on a personal computer are an integral part of the course.
CHEM 1124Q or 1127Q or 1137Q or 1147Q. Recommended preparation: SPSS 2120 and 2125.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203420)

SPSS 3440. Small Fruit Production. (3 Credits)
The commercial production of small fruits and grapes in the Northeast and Mid-Atlantic regions including varieties, fruit-growing systems and pruning, site requirements, harvesting methods, post-harvest requirements, marketing, pest complexes and IPM strategies of the major berry crops.
Not open for credit to graduate students.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203440)

SPSS 3530. Advanced Floral Design. (2 Credits)
In depth study of post-harvest requirements for specialized floral crops. Exposure to novel floral materials with an emphasis on special events and wedding designs. Mass marketing,retail price structuring and mass-production concepts are covered. Taught jointly with SAPL 530.
SPSS 2520; not open for credit to graduate students.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203530)

SPSS 3540. Garden Center Management. (3 Credits)
Fundamentals related to horticultural specialty businesses with particular emphasis on the retail and contracting areas. Specialty and mass merchandising firms are considered and compared. Taught with SAPL 540.
Not open for credit to graduate students.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203540)

SPSS 3550. Urban Plant Systems Construction and Maintenance. (3 Credits)
Technical information on the effective construction and maintenance of planted systems. Structural and functional components of plant systems. Provision of ecosystem services. Overviews of a wide spectrum of planted systems including streetscaping, green roofs and green walls, rain gardens and bioretention, and phytoremediation systems. Techniques of soil modification. Plant selection. Establishment and maintenance of woody and herbaceous plants: planting, preservation, pruning, mulching, irrigation, and fertilization.
Recommended preparation: BIOL 1110; SPSS 2430, 3410.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203550)

SPSS 3560. Indoor Plants and Interiorscaping. (3 Credits)
Taxonomy, identification, ornamental characteristics, cultural requirements and use of tropical plants. Principles of interiorscaping in the home, office, public buildings, and related locations. Taught with SAPL 560.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203560)

SPSS 3610. Organic and Sustainable Vegetable Production. (4 Credits)
Fundamentals of soil management and crop plant husbandry as applied to vegetable production. Horticultural principles of crop growth. Focus is on sustainable and organic practices. Field laboratory will consist of required trips (some outside designated laboratory time) during the early part of the semester to organic and conventional farms. Taught with SAPL 620.
Not open for credit to graduate students.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203610)

SPSS 3620. Soil Fertility. (3 Credits)
Factors governing nutrient uptake by plants, fate of nutrients applied to soils, principles and practices in the manufacture and use of fertilizers for crop production, laboratory and greenhouse studies of soil and plant response to applied nutrients.
SPSS 2120.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203620)

SPSS 3640. Plant Propagation. (3 Credits)
Theory and practice in sexual and asexual propagation of horticultural plants, emphasizing the anatomical, physiological, and ecological principles involved. Laboratories provide practical experience with seeds, division, cuttings, budding, grafting, layering and tissue culture. Taught with SAPL 640.
Not open for credit to graduate students.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203640)

SPSS 3660. Nursery Production. (3 Credits)
Principles of field and container production of nursery stock. Emphasis on production practices for woody nursery stock from propagule to sale. Taught with SAPL 660.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203660)

SPSS 3660W. Nursery Production. (3 Credits)
Principles of field and container production of nursery stock. Emphasis on production practices for woody nursery stock from propagule to sale. Major writing assignment required.
ENGL 1007 or 1010 or 1011.
Skill Codes: COMP. Writing Competency
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203660W)

SPSS 3670. Greenhouse Technology and Operations. (3 Credits)
Introduction to greenhouse crop management with emphasis on structures, environmental control systems, and management techniques used to control crop response.
SPSS 1120.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203670)

SPSS 3675. Greenhouse Technology and Operations Laboratory. (1 Credit)
Greenhouse crop production techniques and methodologies. Follows a travel-course format, in which students participate in regularly scheduled field trips to commercial greenhouse operation in CT and neighboring states. Students will make observations on the mechanical systems, management considerations, and crop production practices employed by commercial businesses.
SPSS 3670, which may be taken concurrently.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203675)

SPSS 3680. Advanced Cannabis Horticulture: Cannabis Production. (3 Credits)
Advanced concepts of Cannabis production, management, processing and product development that build upon SPSS 2130. Students will choose highly focused study of either indoor controlled environment production or outdoor cultivation of Cannabis for part of the course. Taught with SAPL 680.
SPSS 2130 or instructor consent. Not open to students who have completed SPSS 3995 when offered as Advanced Cannabis Horticulture.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203680)

SPSS 3800. Turfgrass Pests and Control. (3 Credits)
Turfgrass weed, insect, disease and vertebrate identification and control. Emphasis on biological controls and IPM. Field trips required. Taught with SAPL 800.
Not open for credit to graduate students.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203800)

SPSS 3810. Fundamentals of Plant Pathology. (3 Credits)
Causal agents, nature and dynamics of plant disease. Pathogen biology, factors influencing disease development, diagnosis of diseases, and principles of plant disease control with emphasis on major diseases of crop, horticultural and turfgrass systems.
BIOL 1108 or 1110; open to juniors or higher.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203810)

SPSS 3820. Ecology and Control of Weeds. (3 Credits)
Weed origin and classification. Losses caused by weeds. Weed competition. Weed seed production, dormancy and germination. Cultural, mechanical, biological and chemical control methods. Weed identification.
BIOL 1108 or 1110; or SPSS 1120.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203820)

SPSS 3830. Horticultural Entomology. (3 Credits)
Identification and management of insects pests found in food crops, ornamental plants and turfgrass. Biology of key pests and their damage symptoms, monitoring and management tactics will be covered along with identification and use of beneficial insects employed in pest management.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203830)

SPSS 3840. Integrated Pest Management. (3 Credits)
Principles of integrated pest management covering insect, disease, and weed problems in agronomic crops, vegetables, fruits, turfgrass, ornamentals, and greenhouse production. Environmental impacts and pest control strategies will be covered. Taught with SAPL 840.
Not open for credit to graduate students.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203840)

SPSS 3990. Field Study Internship. (1-6 Credits)
Students will work with professionals in an area of research or management. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory.) This course may be repeated provided that the sum total of credits earned does not exceed six credits. Open only to juniors and seniors who have demonstrated professional potential as identified by their advisor.
May be repeated for a total of 6 credits
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203990)

SPSS 3995. Special Topics. (1-6 Credits)
Topics and credits to be published prior to the registration period preceding the semester offerings.
May be repeated for credit
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203995)

SPSS 3996. Undergraduate Research in Plant Science. (1-6 Credits)
Individualized research conducted under the supervision of a faculty instructor. The student is required to submit a report on research findings at the end of the semester. Consent of instructor and department head required.
Instructor and department head consent.
May be repeated for credit
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203996)

SPSS 3998. Variable Topics in Plant Science. (1-6 Credits)
Topics and credits to be published prior to the registration period preceding the semester offerings. May be repeated with a change in content.
May be repeated for credit
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203998)

SPSS 3999. Independent Study. (1-6 Credits)
Students are expected to submit written reports.
May be repeated for credit
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%203999)

SPSS 4210. Plant Physiology: How Plants Work. (3 Credits)
Principles of plant physiology and gene expression from the cell to the whole plant level. Emphasis on plant cell structure, water movement, transport systems, photosynthesis, respiration, phytohormone signals and responses to environmental stresses.
BIOL 1108 or 1110; CHEM 1122 or 1124Q or 1127Q or 1137Q or 1147Q; open to juniors or higher.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%204210)

SPSS 4420. Soil Chemistry Processes. (3 Credits)
Physical chemical characteristics of soil minerals and soil organic matter, and their reactivity with compounds present in the aqueous and vapor phase. Topics include: redox reactions, adsorption and desorption measurements, electrokinetics, adsorption modeling, and basic principles of soil modification and remediation practices.
CHEM 1128Q. Recommended preparation: SPSS 2120 and 2125.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%204420)

SPSS 4650. Plant Tissue Culture. (3 Credits)
In vitro techniques for plant propagation, biotechnology and research. Media preparation, aseptic micropropagation techniques including meristem culture, direct and indirect-organogenesis and embryogenesis, embryo rescue, somaclonal variation, and pathogen indexing.
CHEM 1122 or 1124Q or 1127Q.
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%204650)

SPSS 4994. Seminar. (1 Credit)
Professional presentations of current topics in Plant Science.
May be repeated for credit
View Classes (https://catalog.uconn.edu/course-search/?details&code=SPSS%204994)