

URBAN FORESTRY (UFOR)

151. URBAN FORESTRY (Credit, 2 hours). A basic course that covers the history of urban forestry, benefits of the urban forest and urban forestry relationship to other discipline.

251. URBAN FORESTRY SOIL AND ENVIRONMENT (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Emphasis on soil physical and chemical properties and their relations to the growth and development of urban forest communities.

260. INSECTS IN THE ENVIRONMENT (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). This course will introduce the students to the fascinating world of insects, and will cover their significant role in relation to the environment and human activities. The topics will include basic concepts in entomology, and the importance of insects in the environment including major insect pests of crops, ornamentals and forest settings as well of insect vectors of diseases. Insect pollinators, decomposers, and natural enemies provide beneficial services and will be discussed in detail. The collection of insects, proper mounting and identification in the laboratory will provide students with hands-on experiences.

271. ENVIRONMENTAL SCIENCE (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Course focuses on the principles of science and ecology, population, resources, pollution, environment, and society.

278. URBAN DENDROLOGY (Credit, 3 hours) (Lec., 1 hour; Lab/Field, 4 hours). Taxonomy and identification of important forest trees in the United States and Canada with special emphasis on trees suitable for the urban environment.

288. URBAN WILDLIFE MANAGEMENT (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Principles and techniques of urban wildlife management. Required field trips.

299. URBAN FORESTRY SUMMER INTERNSHIPS (Credit, 3 hours). Individual experience in approved institutional or industrial position related to urban forestry 8 to 10 weeks during the summer.

333. FOREST SCIENCE (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Basic principles and practices of traditional forestry including forestry biology, programs, management, products, and policies.

371. PLANT HEALTH CARE (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Consolidation of all plant protection disciplines into an ecologically based multidisciplinary approach to the protection of plants, especially woody plants. Contributions from the fields of plant pathology, entomology, and weed science will be explored. Economic planning and current IPM models related to urban forestry will be studied.

375. INTRODUCTION TO GIS (Credit, 3 hours). A study of Geography Information Systems (GIS). Global Positioning System (GPS), an overview of the functions and capability of ARC-VIEW GIS.

364. ARBORICULTURE I (Credits, 3 hours). (Lec., 2 hours; Lab, 2 hours). Basic principles of tree care and management.

391. URBAN FOREST ECOLOGY (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Ecological energetics, evolution, biogeochemistry, physical and biotic environments, temporal and spatial changes in ecosystems, and application of ecological information in the management of urban forest ecosystems.

399. URBAN FORESTRY SUMMER INTERNSHIPS (Credit, 3-6 hours). Individual experience in approved institutional or industrial position related to urban forestry (8-10 weeks during the summer).

400. URBAN FOREST EVALUATION, INVENTORY, AND MENSURATION (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Use of statistics, remote sensing, integrated geographic information systems (GIS) and global positioning systems (GPS) to evaluate urban forest and natural resources such as urban trees, soils, water and wildlife. Prerequisite: UFOR 278.

410. TREE GENETICS AND IMPROVEMENT (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Deals with genetic relationships among tree species including seed orchard management, provenance testing, exotic species introduction, hybridization, selective breeding, vegetative propagation, controlled pollination, progeny testing, and genetic gain.

415. URBAN FOREST PATHOLOGY (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Diseases of forest and shade trees and their effects on management and utilization of urban forests.

417. URBAN FOREST ENTOMOLOGY (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Study of insects that attacks forest trees. Special emphasis on insects that attack tree species in urban areas.

438. URBAN TREE PHYSIOLOGY (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). The fundamental principles of plant physiology with particular reference to the growth and development of woody plants. Consideration of the influence of genetic and environmental factors, especially urban environment, on physiological processes in trees. Major emphasis focuses on tree structure and wood formation, vegetative and reproductive growth, gas exchange, primary and secondary products, tree nutrition, water relations, and seed physiology.

455. URBAN FOREST MANAGEMENT (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Principles and modern methods of urban forest planning and management: organizational, legal economic, cultural, and environmental relations. Major emphasis on urban forestry concepts and issues, tree and landscape ordinances, tree appraisal, planning and tree master plans, urban forestry program management and funding, tree boards and community volunteerism, and special topics.

457. URBAN HYDROLOGY (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Water and its interrelationships with man, introduction to city physiology and anatomy, analyses of stream flow, stream water quality, hydrologic change flow, stream water quality, hydrologic change due to urbanization, modeling of water quantity and quality of urban watershed, and structure and non-structure control measures in urban water resources planning.

462. URBAN SILVICULTURE (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). The art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands in urban areas to meet the diverse needs and values of landowners and society on a sustainable basis. The course will emphasize on tending of a forest or the growing of trees in urban areas. The course is concerned with meeting human needs by manipulating urban forest using silvicultural practices modified for urban areas.

464. ARBORICULTURE (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Advanced techniques of species selection, establishment, and cultural practices used in the care and maintenance of shade and ornamental trees. Physiological relationships involved in plant propagation with emphasis on

environmental factors as they relate to plant growth, structure, and nursery conditions. Required field trips.

466. URBAN RECREATION AND PARK MANAGEMENT (Credit, 3 hours) (Lec., 2 hours; lab, 2 hours). Management of urban outdoor recreation areas. Planning, development, and maintenance of parks and city forest recreation areas. Required field trips.

473. SEMINAR IN URBAN FORESTRY (Credit, 3 hours) (Lec., 2 hours; Lab, 2 hours). Current and emerging topics in urban forestry and arboriculture, including concepts, principle, research methodologies, and practices, to improve students' involvement and skills in research, literature review, scientific discussion, paper writing, and presenting research results.

477. URBAN FOREST LAW (Credit, 3 hours) (Lec., 2 hours; lab, 2 hours). General features of constitutional, statutory and administrative laws, institutions and processes which establish or limit the powers of public managers. Development of practical student competencies in legal reasoning and research on trees in urban areas.