HORT 169: Intro to Horticulture (3 credits)
This course emphasizes the basic fundamentals and practical cultural practices for successfully growing horticultural plants in the home and garden as well as in commercial production situations. The theoretical basis for these practices will be stressed. Prerequisites: HORT or CROP 161 or consent of instructor. Lab fee required. (F, Sp)

HORT 200: Plant Propagation (3 credits)
Students will study the principles and practices involved in sexual and asexual propagation of horticultural plants. Prerequisites: HORT or CROP 161. (F)

HORT 201: Hardscape Design: Paver, Patios and Retaining Walls (1 credit)
Fundamentals of designing and planning for the implementation of paver walks, patios, and retaining walls for landscaping applications will be covered, including natural dry stone walls and segmental retaining walls. Prerequisite: HORT 169. (F or W alt years)

HORT 202: Landscape Irrigation Management (1 credit)
Fundamentals of the design, operation and management of landscape irrigation systems will be covered, including landscape irrigation auditing principles. Emphasis will be placed on creating and evaluating landscape irrigation systems for water use efficiency. Prerequisites: HORT 169. (W or Sp)

HORT 203: Design and Management of Landscape Lighting and Water Features (1 credit)
Fundamentals of the design and installation of low voltage landscape lighting systems and landscape water features will be covered including ponds, streams, and waterfalls. Prerequisites: HORT 169. (F or W)

HORT 245: Interior Plantscapes (3 credits)
The installation, maintenance, and management of interior plantscapes are discussed from a commercial application point of view. Identification of approximately 140 appropriate foliage plants is also an integral part of the course. Prerequisites: HORT 169, or consent of instructor. (Sp, alternate years)

HORT 250: Sustainable Landscape Design (4 credits)
The content focuses on the theories and principles of sustainable landscape design for residential and small commercial landscapes. Students will create designs using both hand drafted and computer aided design skills. Prerequisite: HORT 169, CROP/HORT 161, or consent of instructor. (Sp)

HORT 255: Turf Management (3 credits)
In this course students will learn the importance and characteristics of cool-season and warm-season grasses used in lawns, parks, sports turf and golf courses along with their establishment procedures and cultural and chemical practices used in maintaining these turf areas. Prerequisites: CROP/HORT 161 and SOIL 120. (Sp)

HORT 268: Herbaceous Perennials (3 credits)
The identification, culture, production, maintenance and landscape utilization of herbaceous perennial plants will be examined. Prerequisite: HORT 169. (F or W alt years)

HORT 270: Horticulture Internship (2-4 credits)
Students obtain professional work experience with a cooperating employer. Individualized learning objectives are established for each participant. The completion of a special project at the internship site is an integral part of the experience. Prerequisites: 30 cr. and consent of director and faculty coordinator. (F, Sp, SS)

HORT 310: Greenhouse Management (3 credits)
Students will study greenhouse structures, environmental control, cultural techniques and general management practices for the commercial production of greenhouse crops. Prerequisite: HORT 169. (F)

HORT 327: Vegetable Science & Production (4 credits) – Writing Intensive
Students will study the commercial production of fresh market and processing vegetables in the United States, with emphasis on the Midwest. Systematics, site
selection, cultural and management practices, and physiological and environmental control of vegetable plant development will be discussed. Prerequisites: HORT or CROP 161 and HORT 169, or consent of instructor. (Sp)

**HORT 347: Fruit Science & Production (4 credits) – Writing Intensive**
Students will study the commercial production of temperate zone small fruits and tree fruits. Site selection, environmental effects and modifications, cultural and management practices, pollination, pruning, soil management, thinning, irrigation, pest control, post harvest physiology, and marketing are discussed. Prerequisites: HORT or CROP 161, and HORT 169, or consent of instructor. (F)

**HORT 352: Woody Landscape Plants (3 credits)**
Students will study the identification, classification, environmental requirements, and cultural requirements of about 120 woody ornamental plants commonly used in the outdoor landscape in the Upper Midwest. Prerequisites: HORT or CROP 161, or consent of instructor. (F)

**HORT 358: Landscape Design Practicum (2 credits)**
This course reinforces the use of landscape design theory and appropriate plant selection through a series of problem solving exercises in which students will create and discuss design solutions. Professional landscape presentation techniques and professional approaches to design practice will be included. Prerequisites: HORT 250, 268, and 352 or consent of instructor.

**AGEC 361: Horticultural Business Management (3 credits)**
An introduction to horticultural business management with emphasis on analytical methods associated with the economics of horticultural business planning. Topics include balance sheets, income statements, cash flows, present values analysis and the application of firm theory in a decision-making environment. Prerequisites: AGEC 230. (Sp)

**HORT 420: Floriculture (4 credits) – Writing Intensive**
Students will study the theoretical and practical aspects of effective production and crop management techniques for selected floral crops commonly grown in the commercial greenhouse industry. Basic crop morphology, propagation, fertilization, environmental responses, control of flowering, and post harvest care will be discussed for each crop. Crop production scheduling, marketing channels, and other selected management topics will be included. Prerequisites: Junior or Senior standing, and HORT 169, or BIOL 210. (Sp)

**HORT 485: Horticulture Seminar (1 credit)**
The student chooses a topic (with the consent of the instructor) of current interest in horticultural science and conducts a comprehensive investigation of the scientific literature relevant to that topic. The student summarizes the results of the investigation in an oral presentation to his/her peers using appropriate visual aids. The student will also critique presentations by other students in the class. Prerequisite: Senior standing. (F, Sp)

**HORT 369: Plant Tissue Culture 3 credits**
This course provides a survey of current plant tissue culture methodologies and applications. Topics covered include: rapid clonal propagation, protoplast fusion and cell culture, haploid plant generation, disease indexing, and shoot tip micro-grafting. Students will gain hands on experience in a plant tissue culture laboratory. A useful course for biotechnology and graduate school-bound students. Prerequisites: CROP or HORT 161, or HORT 200, or consent of instructor. (Sp)

**HORT 452: Arboriculture/Nursery Management (3 credits) - Writing Intensive**
Students will study theories relative to cultural practices and techniques essential to the installation, maintenance and preservation of woody ornamental plants, emphasizing commercial practices. Practical and theoretical aspects of container and field nursery production and management practices in the upper Midwest are examined. Prerequisites: CROP or HORT 161 and HORT 169. (Sp, alternate years)