

# HORTICULTURAL SCIENCE (HORT)

## **HORT\*1120 Grape and Wine Science Winter Only (LEC: 3) [0.50]**

This course will examine whole plant physiology as illustrated by the perennial system of a grapevine. Students will investigate all the primary functions of a green plant, with each function then related to a grapevine and how it functions in nature. Each function of the vine will be connected to the ultimate effects on fruit quality and by extension, wine quality throughout the course.

**Offering(s):** Offered through Distance Education format only.

**Restriction(s):** HORT\*3430. Not acceptable for students in the BOH, BSC, BSC(AGR) or BSC(ENV) programs.

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

## **HORT\*1130 Science of Gardening Fall Only (LEC: 3) [0.50]**

This course examines the growth, development and physiology of horticultural species used for food and ornamental aesthetic purposes. The interaction between plants and impact of environmental factors as such as light, temperature, CO<sub>2</sub> and humidity [on plant processes] will be emphasized.

**Restriction(s):** Not acceptable for students in the BSC, BSC(AGR) or BSC(ENV) programs.

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

## **HORT\*2450 Introduction to Turfgrass Science Fall Only (LEC: 3, LAB: 2) [0.50]**

The biology, ecology, adaptation, and uses of cool-season and warm-season turfgrass species and cultivars will be introduced. Topics will include the identification and life strategies of different turfgrass species, principles of reproduction and techniques for establishment of turfgrass by seeding, sprigging and sodding. The ecology of management including mowing, irrigation, cultivation, mineral nutrition, repair and renovation, and management of stresses (thatch, weeds, insects, disease) will be covered. The turfgrass industry will be introduced, including application of ecological principles to athletic field management, sod production, golf course management, and professional lawn care.

**Prerequisite(s):** BIOL\*1040 or [BIOL\*1090, (1 of BIOL\*1050, BIOL\*1070, BIOL\*1080)]

**Restriction(s):** HORT\*3220

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

## **HORT\*3010 Annual, Perennial and Indoor Plants - Identification and Use Fall Only (LEC: 2, LAB: 2) [0.50]**

This course focuses on the identification and adaptation of annual, biennial, perennial herbaceous and indoor plants. Lectures will be integrated with outdoor laboratory activities to emphasize utilization of plant groups in park, perennial border, general landscape botanic garden and interiorscape settings.

**Offering(s):** Offered in odd-numbered years.

**Prerequisite(s):** 1 of AGR\*2470, LARC\*2240, 0.50 credits in botany

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

## **HORT\*3050 Management of Turfgrass Insect Pests and Weeds Fall Only (LEC: 3, LAB: 2) [0.50]**

Biology, behavior and impact of insect pests of turfgrass and recognition of symptoms will be emphasized. Identification and management of weed species commonly found in turfgrass will be discussed.

Environmental impacts of cultural and chemical control techniques will be discussed for each group of pests and advances in chemical and biological control methods will be developed.

**Prerequisite(s):** HORT\*2450

**Restriction(s):** DTM\*3300

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

## **HORT\*3150 Principles and Applications of Plant Propagation Fall Only (LEC: 2, LAB: 2) [0.50]**

Plant propagation is the art and science of multiplication of plant material involving the application of the principles of plant growth and development and the techniques of mass production. This course will explore biological, commercial, environmental, and social dimensions of plant propagation systems with emphasis on global trends in the plant production industry.

**Prerequisite(s):** AGR\*2470 or BOT\*2100

**Restriction(s):** HORT\*3230, HORT\*3350

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

## **HORT\*3270 Medicinal Plants Winter Only (LEC: 3) [0.50]**

This course will focus on the application of recent biotechnology advances to elucidate the physiology, biochemistry, and conservation biology of medicinal plants for enhancing their efficacy in preventing and curing human disease.

**Prerequisite(s):** 1 of BIOL\*1050, BIOL\*1070, BIOL\*1080, BIOL\*1090

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

## **HORT\*3280 Greenhouse Production Winter Only (LEC: 3, LAB: 3) [0.50]**

This course examines the principles and practices of production, culture and marketing of greenhouse flower and vegetable crops.

**Prerequisite(s):** 1 of AGR\*2050, AGR\*2470, BOT\*2100

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

## **HORT\*3310 Plants, Food and Health Winter Only (LEC: 3) [0.50]**

The course provides an in-depth understanding of plants grown for food, spices and grains as they relate to humans in terms of disease prevention and health. Plants and their familial characteristics, the metabolic pathways characteristic to specific food types, and their effects on human physiology are discussed. Topics are introduced in the context of world food habits, plants as food and hot spots of healthy populations and their food customs.

**Prerequisite(s):** BIOC\*2580

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

**HORT\*3430 Wine-Grape Culture Winter Only (LEC: 3) [0.50]**

The history and impact of grape-growing in the New World will be presented and studied. Grape (*Vitis*) taxonomy (ampelography) and physiology will be studied as it relates to the Old World/New World wine growing. The physiology of fruiting and vegetative balance for managing wine quality in the vineyard will be studied in detail, especially as it pertains to cool climate and northern limit grape growing for premium wine quality. End product management and wine regions of the world will be examined.

**Offering(s):** Offered through Distance Education format only.

**Prerequisite(s):** AGR\*2470 or BOT\*2100

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

**HORT\*3510 Vegetable Production Fall Only (LEC: 3, LAB: 3) [0.50]**

The vegetable industry is examined at various scales of production, including conventional and organic systems. The major vegetable groups are surveyed based on their botany and physiology, and on all aspects of production and marketing. Contemporary issues in the vegetable industry are also addressed.

**Prerequisite(s):** AGR\*2470 or BOT\*2100

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

**HORT\*4300 Postharvest Physiology Winter Only (LEC: 3, LAB: 3) [0.50]**

This course provides an examination and discussion of physiological and biochemical processes unique to postharvest development and deterioration. Principles and practices of storing fruits, vegetables, and florists' and nursery stocks as well as marketing pathways for horticultural crops will be considered.

**Offering(s):** Offered in odd-numbered years.

**Prerequisite(s):** AGR\*2470

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

**HORT\*4380 Tropical and Sub-Tropical Crops Fall Only (LEC: 3) [0.50]**

This course examines the production and utilization of tropical and sub-tropical crops in farming systems.

**Offering(s):** Offered in even-numbered years.

**Prerequisite(s):** 1 of AGR\*2470, BOT\*2100, (AGR\*2050, AGR\*2150)

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

**HORT\*4420 Fruit Crops Fall Only (LEC: 3, LAB: 3) [0.50]**

Growth patterns, fruiting characteristics and adaptation to environmental conditions of fruit crops in temperate regions will be presented.

Classification, cultural practices including propagation and the physiological principles underlying these practices will be emphasized.

**Prerequisite(s):** 1 of AGR\*2050, AGR\*2470, BOT\*2100

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph

**HORT\*4450 Advanced Turfgrass Science Winter Only (LEC: 3, LAB: 2) [0.50]**

This course emphasizes on plant stressors and physiological responses of plants to stress. Interactions between the soil system, the plant and the environment are considered, with focus on how soil physical, chemical and biological properties as well as environmental factors affect turfgrass plant health and physiology. Principles and strategies of biological control, cultural practices that affect plant health, pest life cycles and pest population levels are addressed in order to develop integrated management plans for turf aimed at reducing pest levels in an environmentally benign manner.

**Prerequisite(s):** AGR\*2050 or AGR\*2470

**Department(s):** Department of Plant Agriculture

**Location(s):** Guelph