BOT: Botany Courses

Courses

BOT 2010 General Botany
College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)
Co-requisite: BOT 2010L

Introduction to the basic concepts which apply to all plants including cell theory, biosynthetic processes, physiological response, development and reproduction, as well as consideration of plant morphology, systematics and evolution. Material and supply fee will be assessed for corresponding lab. Meets General Education requirement in Natural Sciences.

BOT 2010L General Botany Lab
College of Sci and Engineering, Department of Biology

1 sh (may not be repeated for credit)
Co-requisite: BOT 2010

This laboratory course features experiments selected to demonstrate and reinforce important principles discussed in the General Botany lecture course. Topics include the angiosperm plant body, microscopy, cells and cell physiology, plant transformation and propagation, primary growth of stems and cell types, leaves, roots, secondary growth, flowers and fruits, soils, nutrition, transpiration, hormones, algae, mosses, ferns, fern allies, and gymnosperms. Material and Supply Fee will be assessed.

BOT 2905 Directed Study
College of Sci and Engineering, Department of Biology

1-12 sh (may be repeated indefinitely for credit)

BOT 3905 Directed Study
College of Sci and Engineering, Department of Biology

1-12 sh (may be repeated indefinitely for credit)

BOT 4374 Plant Developmental Biology
College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)
Prerequisite: BSC 2011/L

Examines the succession of changes that occurs in plants as they progress from a simple embryo to a complex mature plant and through senescence. Plant growth, differentiation, organogenesis, morphogenesis, and environmental influences such as light, temperature, and gravity will be explored emphasizing the cellular and molecular events that control developmental processes. The accompanying laboratory features experiments selected to demonstrate and reinforce important principles discussed in lecture. Offered concurrently with BOT 5376; graduate students will be assigned additional work. Material and Supply fee will be assessed to corresponding lab.

BOT 4374L Plant Developmental Biology Laboratory
College of Sci and Engineering, Department of Biology

1 sh (may not be repeated for credit)
Prerequisite: BOT 4374*
Co-requisite: BOT 4374

Is designed to accompany BOT 4374. Features experiments that demonstrate and reinforce developmental processes presented in the lecture. Topics include cell division and elongation, phototropism, gravitropism, photoperiodism, seed germination, senescence, and plant tissue culture. Offered concurrently with BOT 5376L; graduate students will be assigned additional work. Material and supply fee will be assessed.

BOT 4404C Aquatic Botany
College of Sci and Engineering, Department of Biology

4 sh (may not be repeated for credit)
Prerequisite: BSC 2011/L OR BSC 2011C

Morphology, taxonomy, physiology and ecology of aquatic plants, especially freshwater and marine algae. Material and supply fee will be assessed for corresponding lab.

BOT 4503 Plant Physiology
College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)
Prerequisite: BSC 2011/L

Examines the basic physiological and biochemical processes that determine and govern plant function. Topics include photosynthesis, mitochondrial metabolism, energetics, transport systems, water relations, cell walls, phytohormones, gene expression, and selected aspects of secondary plant metabolism. The accompanying laboratory features experiments selected to demonstrate and reinforce important principles discussed in lecture. Offered concurrently with BOT 5506; graduate students will be assigned additional work. Material and supply fee will be assessed for corresponding lab.

BOT 4503L Plant Physiology Laboratory
College of Sci and Engineering, Department of Biology

1 sh (may not be repeated for credit)
Prerequisite: BOT 4503*
Co-requisite: BOT 4503

Designed to accompany BOT 4503 and features experiments that demonstrate and reinforce physiological and biochemical principles presented in the lecture. Topics include plant nutrition, enzymology, photosynthesis, respiration, transpiration, plant hormones, and seed germination. Material and supply fee will be assessed. Offered concurrently with BOT 5506L; graduate students will be assigned additional work.

BOT 4734 Plant Biotechnology
College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)
Prerequisite: BSC 2011/L

Provides students with a foundation in the molecular biology and genetic manipulation of plants. Model plant systems are used to illustrate current concepts and methodologies used in a modern plant biotechnology laboratory. Case studies illustrate commercial applications of products derived from plant biotechnology and introduce students to ethical issues arising from the use of plant biotechnology. The accompanying laboratory provides students with the opportunity to perform basic manipulations required in a plant biotechnology laboratory and reinforces the principles presented in lecture. Material and supply fee will be assessed for corresponding lab. Offered concurrently with BOT 5735; graduate students will be assigned additional work.

BOT 4734L Plant Biotechnology Lab
College of Sci and Engineering, Department of Biology

1 sh (may not be repeated for credit)
Co-requisite: BOT 4734

Corresponding Lab for Plant Biotechnology.

BOT 4850 Medicinal Botany
College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)
Prerequisite: BSC 2011/L

Pharmacognosy, the knowledge of drugs, grew out of the old herbal remedies passed down by tradition. Plant natural products continue to form the basis of many new therapeutic treatments in modern and alternative medicines. Provides a survey of phytochemicals that have proven useful for improving human health beyond the basic use of plants as a food source. Offered concurrently with BOT 5852 graduate students will be assigned additional work.

BOT 4905 Directed Study
College of Sci and Engineering, Department of Biology

1-12 sh (may be repeated indefinitely for credit)

BOT 5376 Plant Developmental Biology
College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)

Examines the succession of changes that occurs in plants as they progress from a simple embryo to a complex mature plant and through senescence. Plant growth, differentiation, organogenesis, morphogenesis, and environmental influences such as light, temperature, and gravity will be explored emphasizing the cellular and molecular events that control developmental processes. Offered concurrently with BOT 4374; graduate students will be assigned additional work. Material and Supply fee will be assessed to corresponding lab.

BOT 5376L Plant Developmental Biology Laboratory
College of Sci and Engineering, Department of Biology

1 sh (may not be repeated for credit)
Co-requisite: BOT 5376

Is designed to accompany BOT 5376. Features experiments that demonstrate and reinforce developmental processes presented in the lecture. Topics include cell division and elongation, phototropism, gravitropism, photoperiodism, seed germination, senescence, and plant tissue culture. Offered concurrently with BOT 4374L; graduate students will be assigned additional work. Material and supply fee will be assessed.

BOT 5852 Medicinal Botany
College of Sci and Engineering, Department of Biology

3 sh (may not be repeated for credit)

Pharmacognosy, the knowledge of drugs, grew out of the old herbal remedies passed down by tradition. Plant natural products continue to form the basis of many new therapeutic treatments in modern and alternative medicines. Provides a survey of phytochemicals that have proven useful for improving human health beyond the basic use of plants as a food source. Offered concurrently with BOT 4850; graduate students will be assigned additional work.

BOT 5905 Directed Study
College of Sci and Engineering, Department of Biology

1-12 sh (may be repeated indefinitely for credit)

BOT 6905 Directed Study
College of Sci and Engineering, Department of Biology

1-12 sh (may be repeated indefinitely for credit)

* This course may be taken prior to or during the same term.