BOT: Botany Courses

Courses

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

BOT 2905  Directed Study
1-12 sh (may be repeated indefinitely for credit)

BOT 3905  Directed Study
1-12 sh (may be repeated indefinitely for credit)

BOT 4374  Plant Developmental Biology
3 sh (may not be repeated for credit)
Prerequisite: BSC 2011/L
Co-requisite: BOT 4374L

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
1 sh (may not be repeated for credit)
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
4 sh (may not be repeated for credit)

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
3 sh (may not be repeated for credit)
Prerequisite: BSC 2011/L
Co-requisite: BOT 4503L

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
1 sh (may not be repeated for credit)
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
3 sh (may not be repeated for credit)
Prerequisite: BSC 2011/L
Co-requisite: BOT 4734L

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

Corresponding Lab for Plant Biotechnology.

BOT 4850  Medicinal Botany
3 sh (may not be repeated for credit)
Prerequisite: BSC 2011/L
Co-requisite: BOT 4850L

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


BOT 5376  Plant Developmental Biology
3 sh (may not be repeated for credit)
Co-requisite: BOT 5376L
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 4374; graduate students will be assigned additional work. Material and supply fee will be assessed to corresponding lab.

BOT 5376L  Plant Developmental Biology Laboratory
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 5506  Plant Physiology
3 sh (may not be repeated for credit)
Co-requisite: BOT 5506L
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 4503; graduate students will be assigned additional work. Material and supply fee will be assessed for corresponding lab.

BOT 5506L  Plant Physiology Lab
1 sh (may not be repeated for credit)
Co-requisite: BOT 5506
Corresponding lab for Plant Physiology.

BOT 5735L  Plant Biotechnology Lab
1 sh (may not be repeated for credit)
Co-requisite: BOT 5735
Corresponding lab for Plant Biotechnology.

BOT 5852  Medicinal Botany
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
1-12 sh (may be repeated indefinitely for credit)

BOT 6905  Directed Study
1-12 sh (may be repeated indefinitely for credit)