Botany (BOT)

BOT 2050
Field Botany
3:2:3 Fall
* Prerequisite(s): BIOL 1010 or BOT 2400 recommended

For biology majors and non-majors. Covers the classification, identification, and ecology of woody plants with an emphasis on native trees and shrubs. Students completing the course should be able to identify common trees and shrubs native to Utah. Includes field trips and laboratory work. Student plant collection required. Course Lab fee of $30 for transportation applies.

BOT 2100
Flora of Utah
3:2:3
* Prerequisite(s): None, BIOL 1010 is recommended

A vascular plant taxonomy course for intended botany and biology majors or anyone interested in learning about plants native to Utah. Covers the principles of plant classification, nomenclature, and identification with an emphasis on Utah flowering plants. Includes field trips and weekly laboratory. Student plant collection required. Course Lab fee of $30 for transportation applies.

BOT 2400
Plant Kingdom
4:3:2 Spring
* Prerequisite(s): BIOL 1010 or BIOL 1610 with a minimum grade of C-

Surveys of the Divisions (Phyla) traditionally studied by botanists, emphasizing structure, reproduction, systematics, and evolution. Completers should be familiar with the morphological features of the major prokaryotic, fungal, algal, and plant groups. Includes a weekly laboratory. Course Lab fee of $50 for supplies applies.

BOT 3340
Plant Biology
4:3:2 Fall
* Prerequisite(s): BIOL 1620 and (CHEM 1120 or CHEM 1220 or higher) with a minimum grade of C- in each, and University Advanced Standing

Designed for Biology Education majors and others wishing a one semester upper division combined plant anatomy/plant physiology course. Covers structure-function interrelationships from the cellular to whole plant level, including aspects of plant anatomy, physiology, reproduction, growth and development with emphasis on the angiosperms (flowering plants). Includes weekly laboratory. Students may not receive credit for both BOT 3340 and BOT 4100 and/or BOT 4600. Course lab fee of $30 for supplies applies.

BOT 3800
Ethnobotany
4:3-2
* Prerequisite(s): BIOL 1620 with a C- or higher and University Advanced Standing

Analyzes and evaluates interactions between people and plants. Discusses how plants are used in medicine, industry, food, and culture. Covers basic concepts, including literature and field research techniques, phytochemical analysis, and ethical issues such as bioprospecting and conservation. Includes class discussions, student-led activities, oral presentations, and a final project.

BOT 4050
Plant Ecology
3:3:0 Fall
* Prerequisite(s): BIOL 3700 with a C- or higher and University Advanced Standing
* Corequisite(s): BOT 4055

Studies the interrelationships between plants and their environment, including population, community, and ecosystem processes. Specific topics include adaptation to abiotic factors, plant life history patterns, species interactions such as competition and herbivory; community structure, diversity, and dynamics; biome structure and distribution, and energy flow and nutrient cycles in ecosystems. Presents the impact of humans on plant communities and ecological processes.

BOT 4055
Plant Ecology Laboratory
1:0:2 Fall
* Prerequisite(s): University Advanced Standing
* Corequisite(s): BOT 4050

Laboratory component of Plant Ecology in which students acquire skills in the collection, analysis, and presentation of ecological data. Includes field sampling of plant populations, laboratory and greenhouse experiments, and scientific writing. Field trips, including one weekend field trip, are required. Course Lab fee of $87 for lab, transportation applies.

BOT 4100
Plant Anatomy
4:3:2 Not Offered
* Prerequisite(s): BIOL 1620 and BIOL 1625 with a minimum grade of C- in each, and University Advanced Standing

Covers the structure and development of cells, tissues and tissue systems in stems, roots, leaves, and reproductive structures in vascular plants, with emphasis on the angiosperms. Discusses primary and secondary plant body, including wood anatomy. Includes weekly laboratory. Students cannot receive credit toward graduation for both BOT 3340 and BOT 4100. Course lab fee of $25 for supplies applies.

BOT 4200
Plant Systematics
3:2:2 Spring
* Prerequisite(s): (BOT 2050 or BOT 2100), (BIOL 1010 or BIOL 1620), and University Advanced Standing

Covers the principles of plant classification and the techniques employed in gathering and analyzing taxonomic data. Focuses on the essentials of phylogenetic analysis in plants and on the evolutionary relationships between the major groups of vascular plants. Includes a weekly laboratory.

BOT 4300
Native Trees and Shrubs of Utah
3:2:2 Fall
* Prerequisite(s): BIOL 1620 with a C- or higher and University Advanced Standing; BOT 2400 suggested

Explores the diversity of woody plants of Utah, the plant communities they inhabit, and the ecological roles they play. Requires field trips; may include overnight trips as well as scheduled labs. Course Lab fee of $70 for transportation applies.

BOT 4430
Introduction to Grasses
3:2:2 Fall, Summer
* Prerequisite(s): BIOL 1610 with a minimum grade of C- and University Advanced Standing

* Corequisite(s): (BOT 2050 or BOT 2100), and University Advanced Standing

A vascular plant taxonomy course for intended botany and biology majors or anyone interested in learning about plants native to Utah. Covers the principles of plant classification, nomenclature, and identification with an emphasis on Utah flowering plants. Includes field trips and weekly laboratory. Student plant collection required. Course Lab fee of $30 for transportation applies.

BOT 4500
Ethnobotany
4:3-2
* Prerequisite(s): BIOL 1620 and University Advanced Standing

Covers the physiological processes occurring in plants. Includes experimental techniques used in the investigation of processes such as photosynthesis, water and solute transport, tissue culture, growth regulation and responses and plant hormones. Involves problem solving and critical thinking skills. Students can not receive credit for both BOT 4600 and BOT 3340.
BOT 4605
Plant Physiology Laboratory
1:0:3 Spring
* Prerequisite(s): BIOL 1610, BIOL 1615, and University Advanced Standing
* Corequisite(s): BOT 4600
Focuses on laboratory aspects of topics in BOT 4600. Covers experimental methods for studying plant physiological processes such as respiration, photosynthesis, mineral nutrition, transpiration and tissue-water relations. Course Lab fee of $35 applies.

BOT 4700
Plant Tissue Culture
4:2:4 Spring
* Prerequisite(s): BIOL 1620 with a minimum grade of C- and University Advanced Standing
Teaches principles of plant micro propagation techniques. Prepares the student to design and carry out their own micro propagation systems for the cultivation of a particular plant species. Course lab fee of $60 applies.

BOT 4800
Plant-Herbivore Interactions
3:3:0 Not Offered
* Prerequisite(s): BIOL 1620 with a C- or higher, and University Advanced Standing
Studies the diversity of interactions between plants and herbivores, and how these interactions can affect population, community, and ecosystem-level dynamics. Topics include plant defenses, tritrophic interactions, plant succession, and co-evolution. Implications of plant - herbivore interactions to natural resource management are considered.

BOT 481R
Botany Internship
1 to 5:0:5 to 25 On Sufficient Demand
* Prerequisite(s): BIOL 1620 with a C- or higher, Instructor Approval, and University Advanced Standing
Allows biology majors to earn credit while obtaining practical and research experience as an intern in a government, nonprofit, private agency, or with an approved employer. Must be supervised by agency representative and faculty advisor. Department chairperson approval required and written contracts must be completed and signed. May be repeated for a maximum of 5 credits toward graduation. May be graded credit/no credit.

BOT 489R
Student Research
1 to 4:0:3 to 12 On Sufficient Demand
* Prerequisite(s): BIOL 1620, CHEM 1210, Junior or Senior Standing, Instructor Approval, and University Advanced Standing
Provides guided research studies in botany under the direction of a Biology Department faculty mentor. Includes any combination of literature reviews, original research, and/or participation in ongoing departmental projects. Involves students in the methodology of original botanical research. Requires preparation and presentation of oral and/or written reports. Results may form the basis of the senior thesis in the major, if thesis option is chosen. May be repeated for 4 credits toward graduation.

BOT 490R
Special Topics in Botany
1 to 4:0 to 4:0:0 to 12 On Sufficient Demand
* Prerequisite(s): BIOL 1620 with a C- or higher, and University Advanced Standing
Explores and examines special topics relating to botany. May emphasize areas of rapid growth in botanical science or areas not covered in other courses. May be repeated for a total of 8 credits toward graduation.

BOT 499R
Senior Thesis
1 to 2:1 to 2:0 On Sufficient Demand
* Prerequisite(s): ENGL 2010 or ENGL 2020, Junior standing, Instructor Approval, and University Advanced Standing
For students who are nearing completion of a baccalaureate degree in Botany with the thesis option. Assists students who are writing a thesis based only on library research, or those who have performed laboratory/field research under BIOL 489R or BOT 489R. Provides experience in critically analyzing published literature and, if laboratory/field research was performed, comparing research results with the scientific literature. Supervised by an appointed faculty member of the Department of Biology. Requires a technically accurate report on one's findings. Includes the opportunity to present the research results to students, faculty and the community at a Department of Biology seminar. May be repeated once for a total of 2 credits toward graduation.