



Keren Rannekleiv

Susan Pell, Ph.D.
Program Coordinator

BOTANICAL STUDIES explore all aspects of plant growth, plant communities, and the role of plants in ecosystems. Specific areas of botany include natural history, field botany, environmental studies, systematics (plant classification and evolution), floristics (plants of a particular area), and ethnobotany (plants for food, fuel, medicine, and other uses by indigenous cultures).

Course offerings reflect the Garden's strengths and research goals in botanical science. The Herbarium (library of dried pressed plants), with more than seven million specimens, is an international resource for plant taxonomists. The LuEsther T. Mertz Library, with its collection of over one million books, slides, magazines, and other items, ranks as one of the finest botanical and horticultural libraries in the world.

The Botany Certificate Program allows students to select one of three areas of concentration: Field Botany (track 1), Plant Systematics (track 2), or Ethnobotany (track 3).

The Program Coordinator is **Susan Pell, Ph.D.** Dr. Pell teaches several Continuing Education classes covering genetics, angiosperm morphology, and systematics. She is the molecular plant systematist at Brooklyn Botanic Garden where she uses DNA sequence data and morphological characteristics to study the evolutionary relationships of the cashew family, Anacardiaceae. As part of her ongoing studies, she travels worldwide to collect specimens for her research.

Special Program: Gardening in a Changing Climate

Friday, April 20 See page 5 for details.

Students who expect to complete their Certificate requirements by June 1, 2007, must inform the Registration Office in writing of their candidacy by March 1, 2007. Students will be contacted by April 15. See Page 2 for more information.

Botany Certificate Requirements

Code	Course / Quarter(s) offered	Hours
Field Botany (track 1)		
BOT 314	Basic Science Review Workshop / Fall, Winter, Spring	9
BOT 315	Botany I: Basic Concepts / Fall, Winter, Spring	20
BOT 316	Botany II: Plant Physiology / Spring, Fall	20
BOT 317	Botany III: The Plant Kingdom / Summer, Fall	24
BOT 321	Ecology: The Wetland Habitat / Summer	12
BOT 326	Ecology: The Living Forest / Summer	14
BOT 331	Local Flora in Autumn	12
BOT 332	Local Flora in Winter	12
BOT 333	Local Flora in Spring	12
BOT 334	Local Flora in Summer	12
BOT 461	Field Identification of the Algae, Lichens, Fungi, Mosses & Ferns / Spring	12
	Elective BOT track 1 Certificate course / all quarters	20
	Total	179

Plant Systematics (track 2)

BOT 314	Basic Science Review Workshop / Fall, Winter, Spring	9
BOT 315	Botany I: Basic Concepts / Fall, Winter, Spring	20
BOT 316	Botany II: Plant Physiology / Spring, Fall	20
BOT 317	Botany III: The Plant Kingdom / Summer, Fall	24
BOT 399	General Genetics / Winter	12
BOT 431	Morphology of Flowering Plants / Summer	16
BOT 432	Systematic Botany / Fall	21
BOT 433	Advanced Systematic Botany / Spring	18
BOT 443	Gymnosperm Morphology / Fall	12
BOT 463	Understanding Algae, Lichens, Fungi, Mosses & Ferns / Summer	12
	Elective BOT track 2 Certificate course / all quarters	20
	Total	184

Ethnobotany: Cultural Uses of Plants (track 3)

BOT 303	Herb Identification / Summer	12
BOT 314	Basic Science Review Workshop / Fall, Winter, Spring	9
BOT 315	Botany I: Basic Concepts / Fall, Winter, Spring	20
BOT 316	Botany II: Plant Physiology / Spring, Fall	20
BOT 317	Botany III: The Plant Kingdom / Summer, Fall	24
BOT 335	Field Botany for Ethnobotanists / Summer	16
BOT 348	Ethnobotany: Cultural Uses of Plants / Summer	20
BOT 359	Cultural Anthropology / Fall	18
BOT 470	Medical Botany I / Spring	10
BOT 471	Medical Botany II / Fall	10
	Elective BOT track 3 Certificate course/all quarters	20
	Total	179

Work Study Opportunities in the Continuing Education Department

A limited number of work study opportunities are available. Computer skills are required. Call 718.817.8566 for details.

Plant Drawing for Naturalists

Have you ever wished you could remember the details of a plant long after you saw it? Using principals of botanical illustration, learn to quickly make accurate drawings of plants. Proportion, perspective, and keen skills of observation are developed. Practice drawing plant components, including branches, stems, leaves, and parts of a flower. Draw in graphite pencil and colored pencil. A materials list is mailed with your confirmation letter. Please bring lunch.

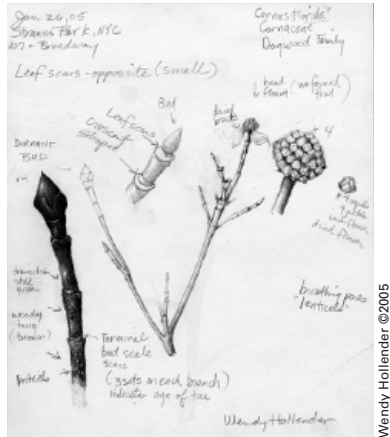
\$186 non-members, \$168 members

Wendy Hollender

SP BOT 145 2 Sundays, April 22 & 29,
10 a.m.–4:30 p.m., Rm. 320

Wendy Hollender is the Coordinator of the

Garden's Botanical Art and Illustration program. She holds a BFA degree from the Rhode Island School of Design in textile design and is a founder of WH Art & Design.



Sketch of a branch

Wendy Hollender ©2005

NEW! Psychoactive Plants

People of all cultures have had a fascination with mind altering plants throughout history, from the highly spiritual such as ayahuasca in South America to the everyday such as chocolate and tea. Discuss the range of psychoactive plants from stimulant to hallucinogenic and ritualistic, how they act in the brain, and their current legal situation. This will help us answer how plants (and fungi) have contributed to shape language, culture, and religion and how they fit into modern life.

\$47 non-members, \$42 members

Nat Bletter

SU BOT 117 Saturday, Aug. 11,
10 a.m.–1 p.m., Rm. 312

NEW! Plant Science Demystified

The New York Botanical Garden is one of the most active and prestigious plant science research institutions in the world. Learn about the amazing research where world-class scientists are seeking cures for cancer, discovering new species, and unraveling the genetic code of some of the world's most fascinating plants. Included is a tour of the new Britton Science Rotunda and Gallery, where research projects are showcased, and a behind-the-scenes tour of the Steere Herbarium, which houses more than 7 million plant specimens. Please bring lunch.

\$62 non-members, \$56 members

Christina Colón, Ph.D.

SP BOT 120 Saturday, May 12,
10 a.m.–2:30 p.m., Rm. 315

Ecology Walk:

Forest Trees and Flowers

Observe and describe tree anatomy and species distribution in the Garden's 50-acre native Forest as correlated with topography and different degrees of shade and drought tolerance. Other topics include changes in the Forest over time, ecology, and identification of forest flowers. This walk takes place rain or shine. Meet at the Visitor Center Clock by the reflecting pool at 10 a.m. sharp.

\$31 non-members, \$28 members

William Schiller

SP BOT 136 Section A: Wednesday,
April 18, 10 a.m.–12 p.m.

SU BOT 136 Section B: Wednesday,
Sept. 26, 10 a.m.–12 p.m.

NEW! A Cornucopia of Fruit

Have you ever tasted the legendary mangosteen or mysterious dragon fruit? These are just a few of the myriad tropical and sub-tropical fruit that entice us to travel to distant countries. Surprisingly many of these delectable fruits are available locally in hidden corners of New York City. Explore the full range of tropical fruits from the common banana to the rarely seen white mango, taste many of them, discover their healing properties, and learn where to find them.

\$52 non-members, \$47 members
(Includes a \$5 materials fee)

Nat Bletter

SP BOT 175 Saturday, May 5,
10 a.m.–1 p.m., Rm. 315

NEW! Eating Your Invasives

Do you ever get tired of all the oxalis, lamb's quarters, Japanese Knotweed and barberry trying to take over your garden? Many of the Northeast's invasive plants are actually edible, nutritious, and tasty. Learn how to identify them in the field, how to process them, and how to cook them to delectability. Learn how to put free food on your plate while helping the local ecology by reducing invasive plants.

\$47 non-members, \$42 members

Nat Bletter

SP BOT 176 Saturday, May 5, 2–5 p.m.,
Rm. 315

Patterns of Nature

Have you ever wondered at the arrangement of a honeycomb, the way a vine twines, or the growth of a seashell? Structure in nature is designed, engineered, and efficient. Following precise mathematical patterns, we find beauty in the orderly arrangement of crystals, the spirals of the galaxy, the cracking pattern in mud, and the shape of a soap bubble. This class provides a thoroughly illustrated and illuminating look at some of these patterns. Please bring lunch.

\$62 non-members, \$56 members

Judy Glattstein

WI BOT 205 Wednesday, March 21,
10:30 a.m.–3 p.m., Rm. 319

Introduction to Plant Science

Certificate Requirement HRT (all tracks) and THR, Classroom Hours: 16

Designed for students who want a user-friendly introduction to plant science, this course surveys the major groups of plants—flowering plants, conifers, ferns, and bryophytes—focusing on plant form and structure. Learn about the relationships between form and function, ecology, systematics, and evolution, and become botanically literate. Gain practical experience in dissecting and analyzing plant structures.

\$380 non-members, \$350 members
(Includes a \$10 materials fee)

Gary Lincoff

SP BOT 300 7 Thursdays, April 19–May 31,
Section A: 3–5:20 p.m., Rm. 315
Section B: 6:15–8:35 p.m., Rm. 315

Walking Tours of New York's Multi-Cultural Neighborhoods

Explore the riches of New York's multi-cultural scene by taking a tour of markets featuring traditional herbs and plants that are specific to a culture or region. Then, have lunch at a local restaurant for a memorable culinary experience. The tours take place rain or shine. Please dress for the weather. The meeting location for each tour is mailed to you upon registration.

China in New York

China has been called "the botanical civilization." In this walking tour of Chinatown we enter this world. See temples, art galleries, tea houses, and book stores, and get to know the actual botanicals that fill the apothecary shops, the food stalls, and the restaurant supply houses. Your guide speaks Mandarin and can translate the numerous signs and labels for you. A meal caps the tour.

\$98 non-members, \$90 members, (Includes a \$20 lunch fee)

Edwin Morris, MA

WI BOT 256 Section B: Sunday, March 25, 1–6 p.m., Offsite

SP BOT 256 Section C: Sunday, May 20, 1–6 p.m., Offsite

Tour of Little India

India's rich heritage of healing herbs (Ayurvedic medicine), foods, and aromatic oils has been transplanted into many "little Indias" in this country. This tour takes you to a spectacular example in Jackson Heights, Queens. Begin with Indian masala tea and snacks while we review our itinerary. Learn about the foods of India, including easy recipes. Experience Indian languages, clothing, foods, music, and identify Ayurvedic herbs, healing foods, and spices. You are given ample time to shop. The tour culminates with a delicious vegetarian meal at a local restaurant.

\$80 non-members, \$74 members, (Includes a \$20 lunch fee)

Preeti Sengupta

SP BOT 266 Saturday, May 5, 11 a.m.–3 p.m., Offsite

Arthur Avenue "Little Italy of the Bronx"

Belmont's "little Italy" is known for its rich and colorful history, merchants, and culture. Explore the restaurants, shops, and cultural centers that constitute this uniquely Italian neighborhood. Start with coffee, tea, and cannolis at a cafe, then tour the markets, view the preparation of mozzarella cheese, and enjoy sampling Italian wine. Enjoy authentic Italian cooking with lunch at a local restaurant. You are given ample time in the open market to shop.

\$98 non-members, \$90 members

(Includes a \$20 lunch fee)

Katie and Ryan Huish

WI BOT 276 Saturday, March 3, 10 a.m.–3 p.m., Offsite

Botanicas: Specialty Hispanic Markets

Ingredients for Central American, South American, and Caribbean healing remedies are sold in local Botanicas, including the dried and fresh leaves, roots, resins, and seeds of many medicinal plants. Experience the energy of a Botanica by meeting with curanderos (traditional healers) and learn about their healing practices first-hand. Visit ethnic vegetable, fruit, and fish markets, discover the open (street) markets of Fordham Road, and enjoy a classic family-style Latino meal in a local restaurant.

\$98 non-members, \$90 members, (Includes a \$20 lunch fee)

Saralinda Lugo Hart

WI BOT 277 Saturday, March 24, 10 a.m.–2:30 p.m., Offsite

Herb Identification and Cultural Importance

Certificate Requirement (track 3), Certificate Elective (track 1) Classroom Hours: 12

Learn to recognize the principal families of useful plants and to identify herbs. Investigate both the physical properties of herbs and their roles within traditional cultures. The ceremonial uses of herbs and their practical applications as medicinals, aromatics, dyes, detergents, etc., are discussed. The body of herbs and herbalism literature is surveyed. Tours of the Garden grounds are incorporated into instruction. Please bring lunch.

\$280 non-members, \$252 members

Leda Meredith

SU BOT 303 Saturday & Sunday,

Aug. 11 & 12, 10 a.m.–4:30 p.m., Rm. 315

Plant Structures for Naturalists

Certificate Elective (all tracks), Classroom Hours: 7

From mosses to oaks, plants have fascinatingly different adaptations to life on land. Learn basic morphology of plants, including bryophytes (mosses, liverworts, and hornworts), ferns, gymnosperms (plants with cones), and angiosperms (flowering plants) in this hands-on course. This introduction prepares you for taking local flora classes, using plant guide books, or for a curious soul's walking through the woods. Fresh materials for hands-on lab dissection are provided by the instructor.

\$176 non-members, \$159 members

(Includes a \$8 materials fee)

Susan Pell, Ph.D.

SP BOT 306 2 Saturdays, June 9 & 16,

12–3:30 p.m., Rm. 315

Basic Science Review Workshop

Certificate Requirement (all tracks), Classroom Hours: 9

Has it been a while since your last science class? We require this course as preparation for Botany I, but it can also be used as a refresher course on basic laboratory techniques. Discuss essential biological concepts and practice hands-on laboratory skills, such as working with dissecting and compound microscopes, and making wet-mount slides with fresh botanical materials.

\$220 non-members, \$198 members

(Includes a \$7 materials fee)

Claire Jouseau, MA

WI BOT 314 Section A: 3 Mondays,

March 26–April 16 (no class April 2),

6:15–9:15 p.m., Rm. 315

Todd Osmundson, MS

WI BOT 314 Section B: Tuesday–Thursday,

March 27–29, 10 a.m.–1 p.m., Rm. 315

Botany I: Basic Concepts

Certificate Requirement (all tracks), Classroom Hours: 20 and College Credit Recommendation

Learn about the basic plant body, from the cell to the main component parts, including roots, stems, leaves, flowers, and fruit. Use both dissecting and compound light microscopes to view plant parts. The fundamental chemistry required for understanding how plants function is presented. *Prerequisite: BOT 314—Basic Science Review Workshop or approval of the Program Coordinator.*

\$438 non-members, \$408 members

(Includes a \$8 materials fee)

\$45 College credit fee (optional)

Todd Osmundson, MS

SP BOT 315 Section A: 8 Wednesdays, April 11–May 30, Exam June 6, 9:30 a.m.–12 p.m., Rm. 315

Jamie Boyer, MS

SP BOT 315 Section B: 8 Mondays, April 23–June 18 (no class May 28), Exam June 25, 6:15–8:45 p.m., Rm. 315

Botany II: Plant Physiology

Certificate Requirement (all tracks), Classroom Hours: 20 and College Credit Recommendation

This course focuses on plant physiology. The role of plant hormones in growth and development is discussed as well as plant movements, water transport through the plant body, and plant metabolism, including photosynthesis and respiration (anaerobic and aerobic). All the basic chemistry needed to understand this material is presented in class. *Prerequisite: Botany I—BOT 315.*

\$470 non-members, \$440 members

(Includes a \$10 materials fee)

\$45 College credit fee (optional)

Katherine Herrera

SP BOT 316 Section A: 8 Tuesdays, April 10–June 12 (no class May 22 & 29), Exam June 19, 6:15–9:15 p.m., Rm. 315

Jack Henning, MA, MS

SP BOT 316 Section B: 8 Thursdays, May 17–July 5, Exam July 12, 2–5 p.m., Rm. 315

Botany III: The Plant Kingdom

Certificate Requirement (all tracks), Classroom Hours: 24 and College Credit Recommendation

Survey the plant kingdom through the study of morphological, anatomical, and life cycle diversity of the major divisions. An introduction to the principles and mechanics of evolution and classification provides the framework for understanding how these divisions are defined. The fundamental nutrient cycles and ecological concepts are presented. *Prerequisite: Botany II—BOT 316.*

\$555 non-members, \$525 members

(Includes a \$5 materials fee)

\$45 College credit fee (optional)

Jack Henning, MA, MS

SU BOT 317 Section A: 4 Mondays & 4 Wednesdays, July 16–Aug. 8, Exam Aug. 13, 10 a.m.–1 p.m., Rm. 315

Jamie Boyer, MS

SU BOT 317 Section B: 8 Mondays, Sept. 10–Nov. 5 (no class Oct. 8), Exam Nov. 12, 6:15–9:15 p.m., Rm. 315

Local Flora in Spring

Certificate Requirement (track 1) and Elective (tracks 2 & 3), Classroom Hours: 12

Our native wildflowers, trees, and shrubs are a beautiful sign of rebirth in the spring. Learn to recognize them and become familiar with their structure and taxonomy. Take part in field walks and classroom sessions, and practice using taxonomic keys. Students are required to make their own personal collections of plants and may borrow an herbarium press (a \$30 deposit is required).

\$287 non-members, \$259 members

(Includes a \$7 materials fee)

Carol Levine, MS Ed

SP BOT 333 6 Fridays, April 27–June 8 (no class June 1), 10 a.m.–12 p.m., Rm. 315

Local Flora in Summer

Certificate Requirement (track 1) and Elective (tracks 2 & 3), Classroom Hours: 12

Learn to recognize native and introduced herbs, ferns, shrubs, and trees as they appear in summer, and get to know plants which may be found in fields, on roadsides, and in woodlands and wetlands. While identifying local plants, learn about basic plant structure, taxonomy, and making your own plant collections. You may borrow an herbarium press (a \$30 deposit is required). Please bring sunscreen.

\$280 non-members, \$252 members

Gary Lincoff

SU BOT 334 4 Tuesdays, July 10–31, 10 a.m.–1 p.m., Rm. 315

Field Botany for Ethnobotanists

Certificate Requirement (track 3) and Elective (track 1), Classroom Hours: 16

Learn how to identify both temperate and tropical plants that are used for foods, medicines, clothing, shelter, tools, hunting, art, body decoration, and spiritual purposes. Study and compare Native Americans with native peoples in the Amazon, Andes, India, Madagascar, Siberia, Thailand, and Papua New Guinea. Lab time is devoted to learning how native peoples identify plants compared with methods used by modern taxonomists, and how we can benefit from using both approaches.

\$370 non-members, \$340 members

Gary Lincoff

SU BOT 335 4 Tuesdays, July 10–31, 2–6 p.m., Rm. 315

Ferns and Their Allies in Spring

Certificate Elective (all tracks), Classroom Hours: 9

Ferns occur almost everywhere. They are present in nearly all ecological systems, yet ferns and their allies are among the smallest and oldest botanical groups on Earth today. Discover fascinating facts, and learn about their natural history and classification as you identify native ferns where they grow. Dress for the weather.

\$213 non-members, \$191 members

Jamie Boyer, MS

SP BOT 342 3 Wednesdays, April 25–May 9, 6:15–9:15 p.m., Rm. 315

Ethnobotany: Cultural Uses of Plants

Certificate Requirement (track 3), Classroom Hours: 20

Explore how plants are a part of daily human life, from foods and clothes to medicines and the homes we live in. Study the social, historical, cultural, ecological, and economic impacts of people-plant interactions around the world. Topics are: plant classification; the major food crops; plants that produce oil, fibers, dyes, and building materials; plants as beverages, spices, and perfumes; medicinal, poisonous, and psychoactive plants; and biotechnology, ethical issues, and field methods in ethnobotany. Demonstrations and laboratory exercises are included.

\$460 non-members, \$430 members

Ryan Huish

SU BOT 348 6 Tuesdays, July 10–Aug. 14, 6:05–9:25 p.m., Rm. 315

Questions about selecting Botany Courses?

Call the Botany Program Coordinator, Susan Pell, at 718.817.8594. She can also be reached by e-mail: progcoor@nybg.org

Botanical Latin*Certificate Elective (all tracks),**Classroom Hours: 8*

Botanical nomenclature can add a new dimension to your gardening by helping you identify and know plants better. For example, we can infer from the name *Portulaca* that plants of this genus carry a milky sap, because “portu-” means carry (as in portable) and “-laca” refers to milk (as in lactose). Review rules of nomenclature and pronunciation and learn about the history of the binomial system in use today.

\$190 non-members, \$171 members

Alfred Luongo**SU GAR 360** 4 Wednesdays, Sept. 5–26, 6:15–8:15 p.m., Rm. 302**Mushroom Mania***Certificate Elective (all tracks),**Classroom Hours: 12*

Labor Day through Halloween is one of the best times to harvest a host of wild mushrooms in our area. Learn how to identify many of these species, how to differentiate edible from poisonous kinds, and where they tend to grow. Survey the great variety of mushrooms in our region and learn the differences between groups of mushrooms, especially look-alikes. An optional post-course trip to Bear Mountain to collect mushrooms can be arranged if a day can be agreed upon and enough cars are available.

\$280 non-members, \$252 members

Gary Lincoff**SU BOT 361** 4 Tuesdays, Sept. 11–Oct. 2, 2–5 p.m., Rm. 315**General Genetics***Certificate Requirement (track 2), Certificate Elective (track 3), Classroom Hours: 12*

Learn the basics of Mendelian, non-Mendelian, and molecular genetics. The structure and function of DNA, RNA, chromosomes, and genes are related to laws of inheritance. Modern techniques and applications of genetics such as DNA sequencing, the Human Genome Project, and genetically engineered crops are discussed.

\$280 non-members, \$252 members

Susan Pell, Ph.D.**WI BOT 399** 4 Wednesdays, March 28–April 18, 6:15–9:15 p.m., Rm. 315**Plants and Environment—An Ecological Perspective**

There are many newsworthy issues that impact plant ecology—from global warming to genetic engineering. Gain a better understanding of ecological issues in these courses. Learn what you can do to make a difference locally and globally.

*Wetland at the Garden***Ecology: The Wetland Habitat***Certificate Requirement (track 1),**Classroom Hours: 12*

Pull on your rubber boots and learn ecology in the Garden's outdoor wetland areas. Learn about the forces that shape the delicate wetland habitat. Develop the skills necessary for stewardship of this often-endangered ecosystem. Please bring lunch and dress for the weather.

\$292 non-members, \$264 members, (Includes a \$12 materials fee)

Christina Colón, Ph.D.**SU BOT 321** Saturday & Sunday, Aug. 4 & 5, 9:30 a.m.–3:30 p.m., Rm. 312**Ecology: The Living Forest***Certificate Requirement (track 1),**Classroom Hours: 14*

Explore the basic principles that influence the ecological relationships of the forest ecosystem. Using the Garden's grounds as a laboratory, study the forces that shape our natural environment—the Northeast Woodland. These labs and lectures provide an experience that expands skills for the stewardship of plants and wildlife. Please bring lunch and dress for the weather.

\$337 non-members, \$307 members, (Includes a \$12 materials fee)

Christina Colón, Ph.D.**SU BOT 326** Saturday & Sunday, Aug. 25 & 26, 9 a.m.–4:30 p.m., Rm. 312**Urban Ecology***Certificate Elective (track 1),**Classroom Hours: 12*

The relationships between plants, animals, and their natural habitats can seem foreign to the urban landscape. Urban ecology demonstrates that the processes that determine these relationships are the same in urban settings as they are in rural or wilderness environments. Learn the fundamental concepts of ecology as they relate to urban environments. Explore examples of natural and semi-natural ecosystems on field trips around New York City to examine issues of conservation, pollution, and sustainability. Transportation to be discussed in first class. Please dress for outdoors.

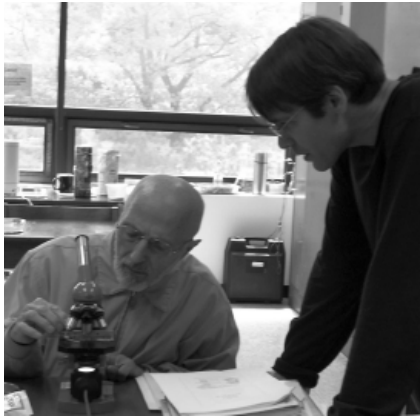
\$280 non-members, \$252 members

Jason Sircely, MA**SP BOT 345** 4 Saturdays, April 28–May 19, 1–4 p.m., Rm. 319**NEW! Restoration Ecology in Principle and Practice***Certificate Elective (track 1),**Classroom Hours: 12*

Human activities have degraded many of our natural areas. Restoring these areas challenges not only our understanding of the science underlying the structure and function of ecosystems but also the philosophical, political, and cultural basis for redesigning landscapes. Review case studies of restored forests, savannas, prairies, and wetlands to learn how to incorporate ecological principles into restoration design, implementation and monitoring.

\$280 non-members, \$252 members

Robin Sears, Ph.D.**SP BOT 385** 4 Sundays, June 10–July 1, 1–4 p.m., Rm. 315



Todd Osmundson instructs botany student.

Andrea Russo

Morphology of Flowering Plants

Certificate Requirement (track 2), Certificate Elective (tracks 1 & 3), and College Credit Recommendation, Classroom Hours: 16

Angiosperms are the dominant life form in most of the habitats of the world today. Through laboratory demonstrations and dissections, examine the morphology of flowers, fruits, and vegetative plant parts, and learn about the development of these structures. *Prerequisite: Botany III: The Plant Kingdom—BOT 317.*

\$377 non-members, \$347 members
(Includes a \$7 materials fee)
\$45 College credit fee (optional)

Susan Pell, Ph.D.

SU BOT 431 5 Wednesdays, Sept. 5–Oct. 3,
Exam Oct. 10, 4:30–7:40 p.m., Rm. 315

Advanced Systematic Botany

Certificate Requirement (track 2) and Elective (track 1) and College Credit Recommendation, Classroom Hours: 18

Survey the major families of the angiosperms (flowering plants), the dominant group of organisms on Earth today. Learn the characteristics and principles used to classify them, differences between grasses and sedges, newly recognized high order groupings of species, and evolutionary trends in modifications of floral structure and vegetative morphology. *Prerequisite: Systematic Botany—BOT 432.*

\$415 non-members, \$385 members
\$45 College credit fee (optional)

Susan Pell, Ph.D.

SP BOT 433 6 Wednesdays,
May 16–June 20, Exam June 27,
6:15–9:15 p.m., Rm. 315

Paleobotany: The Origin of Plants

*Certificate Elective (tracks 1 & 2),
Classroom Hours: 10*

Paleobotany, the study of plant evolution through fossil evidence, gives us insights into Earth's past and present flora. Gain a clearer perception about historical patterns of global diversity and climate change. Lectures and slides trace the rise and rapid evolution of the first land plants through the origin of present-day trees, seeds, and flowering plants.

\$235 non-members, \$211 members

Jamie Boyer, MS

SU BOT 434 4 Tuesdays, Sept. 11–Oct. 2,
6:15–8:45 p.m., Rm. 315

Field Identification of Algae, Lichens, Fungi, Mosses & Ferns

Certificate Requirement (track 1), Certificate Elective (track 2), Classroom Hours: 12 and College Credit Recommendation

Algae, fungi, mosses, hepatics, lichens, ferns, and fern allies are all members of the cryptogams, the seedless plants. In this course, students develop an understanding of the structure of the cryptogamic plants in order to recognize the major groups on sight and to effectively use keys to make more specific identifications. Emphasis is given to the diversity and interrelationships of these groups.

\$280 non-members, \$252 members
\$45 college credit fee (optional)

Gary Lincoff

SP BOT 461 4 Thursdays, June 7–28,
Exam July 12, 10 a.m.–1 p.m., Rm. 315

Understanding Algae, Lichens, Fungi, Mosses & Ferns

Certificate Requirement (track 2), Certificate Elective (track 1), Classroom Hours: 12

The cryptogams—algae, fungi, lichens, slime molds, mosses, liverworts, ferns, and fern allies—are grouped together on the basis of their lack of seeds. Cryptogams are also responsible for the production of economically important substances. Through slides and demonstrations, survey major groups of cryptogams and examine their structure, lifecycles, and interrelationships with other plants and animals.

\$280 non-members, \$252 members

Gary Lincoff

SU BOT 463 4 Thursdays, July 12–Aug. 2,
10 a.m.–1 p.m., Rm. 315

Medical Botany I

*Certificate Requirement (track 3),
Classroom Hours: 10*

This class is an introduction to Herbalism. Learn about herbal traditions as well as specific foods and plants to optimize health. Study the medicinal properties of plants used for the digestive, respiratory, and circulatory systems, proper methods for herbal cultivation, harvesting, and storage to protect herbal efficacy. Basic herbal preparations such as herbal teas, poultices, and soaks are discussed. Students learn to prepare simple herbal formulas. Please note that general plant actions (i.e. carminitives, cholagogues, expectorants, etc.) are covered. Detailed phyto-chemistry of medicinal plants is not discussed in this class. Students must attend all 4 sessions to receive a grade for this class.

\$245 non-members, \$221 members
(Includes a \$10 materials fee)

Ursula Basch, BCE

SP BOT 470 4 Sundays, April 15–May 6,
2–4:30 p.m., Rm. 315

Entomology

*Certificate Elective (BOT tracks 1 & 2,
HRT track 2), Classroom Hours: 18*

Gain a basic understanding of the structure, growth, and development of insects. Learn about their harmful and beneficial effects, and how to control insects and arthropod forms. Learn to collect, identify, classify, and preserve a wide variety of insects. Fieldwork is done on the Garden's grounds.

\$430 non-members, \$400 members
(Includes a \$15 materials fee)

Craig Gibbs

SP BOT 481 6 Tuesdays, May 15–June 19,
Exam June 26, 2–5 p.m., Rm. 315

Courses of Related Interest:

Bringing Wildlife into the Garden

SP GAR 161, pg. 46

Cultivating Endangered Plants

SU GAR 198, pg. 49

The Ladies Border: An Experimental Palette of Plants

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