

The Campuses

SUNY-ESF is a multiple campus institution that includes approximately 1 million square feet of facilities in 186 buildings on 25,000 acres of land.

The Syracuse Campus

ESF's Syracuse campus lies on 12 acres adjacent to Syracuse University in an area traditionally known as "The Hill." Our principal instructional programs at the bachelor's, master's, and doctoral levels are offered on the Syracuse campus. In addition, the Syracuse campus houses a wide variety of important research organizations. Programs are housed in seven academic buildings: Baker Laboratory, Jahn Laboratory; Walters, Bray, Marshall, and Illick halls; and Moon Library.

Moon Library

www.esf.edu/moonlib

The F. Franklin Moon Library contains more than 135,000 cataloged items and receives approximately 800 print journals and hundreds more electronically. The collection constitutes a specialized information source for the academic programs of the College. The collection has concentrations in such areas as botany and plant pathology, biochemistry, chemical ecology, forest chemistry, polymer chemistry, economics, entomology, environmental studies, landscape architecture, environmental design, management, paper science, photogrammetry, silviculture, soil science, water resources, world forestry, wildlife biology, wood products engineering, and zoology.

The Syracuse University libraries and the libraries at SUNY Upstate Medical University are within walking distance of ESF. Moon Library shares an online library catalog with Syracuse University, which also provides access to hundreds of Web-based databases (bibliographic and full text).

All Syracuse University library collections may be searched by using an online public access catalog located in Moon Library and through the World Wide Web. Other collections located throughout the United States are readily accessible through interlibrary loan.

The library building opened in 1968 and can seat 400 people. An extensive renovation of the main floor was completed in 2007. The main reading areas are located on the upper level adjacent to the open stacks. The reference, reserve and circulation areas are located in the center of the building. The main level of the library includes computer workstations for the library catalog, databases and Internet searching; individual study carrels; a conference room; library faculty offices; a writing support center; and tutoring areas, which create a learning commons atmosphere. The archives and special collections, a computer laboratory and library processing areas are located on the lower level.

Services provided by the library faculty and staff include a credit course in information literacy (ESF 200), orientation programs, class lectures, user aids and reference desk services.

The library is a wireless environment where students may use their personal laptops for work. A few laptops are available for loan from the reserve desk.

The College Archives, located in Moon Library, contain historical items relevant to the College and to forestry development in New York State. The special collections area of the archives

includes rare and valuable books and folios, as well as the Fletcher Steele collection on landscape architecture and a collection on papermaking donated by Thomas Cook, an ESF alumnus.

ESF Computing and Network Services

www.esf.edu/computing

<http://cns.esf.edu>

The use of computing technology is critical to the educational experience at ESF. Four public computing labs are maintained by ESF Computing and Network Services (CNS) for general campus use. All labs are open seven days a week during most of the academic year and contain PCs, printers and software commonly in use by ESF academic programs. In addition to these ESF campus computing resources, Syracuse University's Information Technology and Services manages public computer labs where ESF students can access required resources for both class work and research. Several of these labs are open 24 hours a day, seven days a week.

The ESF Computing and Network Service labs in Baker Laboratory and Moon Library consist of Windows-based PCs with multiformat color and black-and-white printing facilities. From these labs, students have access to significant services through the ESF campus network, Syracuse University's campus network, and the Internet. Additionally, all ESF students are assigned electronic mail accounts through Syracuse University for their e-mail needs. This e-mail address is used by both ESF and SU for all official electronic communications with students.

CNS supports students and faculty at ESF by maintaining the software available over the network and resident on ESF Computing Center PCs. Software available to students includes word processing applications, CAD and graphics packages, statistical packages, data-base management/spreadsheet applications, Geographic Information Systems/modeling (GIS) applications, various compilers, and other miscellaneous course-specific software.

Additional computing facilities on the ESF campus are provided by the individual academic programs for specialized uses such as modeling and geographic information systems. The specific descriptions of these resources are located within the department sections of this catalog.

Connections to the ESF campus network and the Internet can be made through ESF's Evergreen wireless network from the main level of Moon Library, Marshall Hall, Baker Labs, Bray Hall rotunda, and the main lobby/classroom area of Illick Hall. Syracuse University's wireless network, AirOrange, can be accessed from a variety of locations around the SU campus and from most residence halls. ESF students living in Syracuse University residence halls will find all of the dormitories wired for direct connections from student rooms to the Syracuse University campus network and the Internet.

Analytical and Technical Services

www.esf.edu/ats

Analytical and Technical Services provides an array of centralized analytical services including nuclear magnetic resonance spectrometry (NMR), gas chromatography-mass spectrometry (GC/MS), high resolution GC/MS, inductively coupled plasma-optical emission spectrometry (ICP-OES), and high resolution ICP-mass spectrometry. The unit also provides services including operation of a chemical and laboratory apparatus stockroom, microcomputer repair, instrument and equipment repair and

fabrication, micromechanical repair and experimental apparatus fabrication, and coordination of scientific glassblowing repair.

Specialized Facilities

Specialized facilities on the Syracuse campus include electron microscopes; plant growth chambers; seven climate-controlled greenhouses; a bio-acoustical laboratory; radioisotope laboratory; computing labs; and specialized instrumentation including a nuclear magnetic resonance spectrometer with both liquids and solids capability, gas chromatography, mass spectrometer, inductively coupled plasma emission spectrometer, ultracentrifuge, and X-ray and infrared spectrophotometer.

The Department of Paper and Bioprocess Engineering features a semicommercial paper mill with accessory equipment. The Department of Construction Management and Wood Products Engineering has a complete strength-of-materials laboratory as well as a pilot-scale plywood laboratory and a machining laboratory. Baker Laboratory includes state-of-the-art equipment for the study of hydrology and hydraulics.

Illick Hall's greenhouses and forest insectary are used to produce plant and insect material for instruction. Extensive collections are available for study, including wood samples from all over the world, botanical materials, insects, birds, mammals, and fishes.

Geographic Information Systems (GIS)

Geographic information systems provide capabilities for acquiring, storing, managing, manipulating, analyzing, displaying and reporting data or information which has spatial attributes. GIS has power and utility for generating fundamental knowledge about the world and for many practical environmental applications. In recognition of the importance of geospatial modeling and analysis to all programs of study and research at the College, the Council for Geospatial Modeling and Analysis (CGMA) was formed in 1991 to develop coherent programs of instruction, research and public service.

Geospatial instruction and research at ESF builds upon strengths in surveying, remote sensing, modeling, hydrology, environmental engineering, and waste management. It also builds on strengths in environmental applications, including environmental science, natural resources management, planning and design.

The College has extensive research and advanced instruction facilities and these facilities continue to expand. Additional resources exist at Syracuse University, including internationally recognized faculty in the areas of cartographic theory and geographic analysis.

Any program at ESF can include a component of GIS instruction and practice with appropriate coordination. More concentrated study, application, and research using GIS is available through many departments.

Division of Engineering faculty and students are interested in spatial data acquisition, environmental database development, environmental modeling, site selection, and facility design. The study of GIS in engineering may be coordinated with programs in remote sensing and mapping, environmental assessment and engineering, image processing and spatial analysis, and water resources.

Environmental Studies faculty and students are interested in policy issues associated with environmental information and applications within metropolitan environments. The department's

academic programs offer students special opportunities to pursue an inter-disciplinary program that is tailored to their needs and can include instruction in geospatial applications and research.

Forest and Natural Resources Management uses GIS to focus on forest management and planning, including inventory analysis, harvest planning and multiple use management. Since resources management is essentially spatial in nature, both undergraduate and graduate programs benefit from these technologies.

Landscape Architecture students and faculty are interested in the application of CAD, GIS, and video technologies for landscape analysis, planning and design. These technologies are integrated into required coursework, and advanced bachelor's and master's degree students may pursue additional learning in computer applications.

The Department of Environmental and Forest Biology uses geospatial modeling and analysis to study ecological interactions among and between components of spatially distributed ecosystems. These components consist of both external and internal process functions. The former include such inputs as sunlight, precipitation, temperature, and nutrients, which vary over terrain, lakes, soils, and watersheds. The latter include the energy flows and feedbacks that occur between, for example, various plant communities, and animal or fish species, which vary over the landscape as a function of their environmental gradient requirements.

The Regional Campuses

www.esf.edu/campuses

Nearly 100 years ago, the College began to assemble a system of properties that would broadly represent New York's rich ecological diversity for scientific study and instruction. Today, students participate in hands-on laboratory activities on approximately 25,000 acres of forest property located on the College's five regional campuses and three field stations. By creating this system of outdoor classrooms and laboratories and making it available for long-term study and instruction SUNY-ESF supports a wide range of scientific disciplines, with current research in forest ecology, wildlife biology, ecophysiology, biogeochemistry, and silviculture. The size, scope, and ecological diversity of the College's regional campuses make it unique among institutions of higher education. When these properties are taken into account, SUNY-ESF offers its students and faculty access to one of the largest college campuses in the world.

Cranberry Lake Campus

www.esf.edu/clbs

Established in 1923, the Cranberry Lake Campus consists of nearly 1,000 acres of forested property in the northwestern Adirondacks, bounded by 150,000 acres of New York forest preserve lands and Cranberry Lake itself.

Situated within the 984-acre Charles Lathrop Pack Experimental Forest, ESF's Cranberry Lake Biological Station (CLBS) is home to a 10-week summer field program in environmental biology. Six to eight courses are offered for advanced undergraduate (juniors and seniors) and graduate students in each of two sessions. Typical courses include ornithology, vertebrate ecology, behavioral ecology, phycology, limnology, vascular plants, byroecology, fish ecology, wildlife techniques, wilderness wildlife management, entomology, plant pathology, mycology, forest

ecology, plant biochemical ecology, and wetland ecology. All courses stress field experience and the design and reporting of independent research. There are also opportunities for students to design a full course of independent study for credit in consultation with appropriate faculty. There are biweekly seminars by resident and visiting faculty and other researchers during each session. Use of the campus before and after the summer season varies to include individual research projects, cooperative studies with other agencies, and visits by groups from both the College and other institutions.

Major research programs in various aspects of population biology, behavioral and physiological ecology, chemical ecology, and even field biochemistry are in progress during each field season. Ongoing projects have focused on the ecology and social behavior of birds and mammals, especially the barn swallow; amphibian behavior and life history; tradeoffs between foraging and predator avoidance in stream fishes; solitary and parasitoid wasp behavior; honeybee foraging behavior; the ecology of dispersal and reproduction in bryophytes; distribution and systematics of algae; beaver chemical ecology; loon behavior and ecology; plant chemical defenses and alcohol metabolism; and forest community ecology.

Newcomb Campus

www.esf.edu/aec

Nestled in the heart of the Adirondack Mountains, the Newcomb Campus is the largest of the regional campuses and home to the Adirondack Ecological Center (AEC), SUNY-ESF's nationally recognized research and teaching facility where extensive studies of animal biology and ecology are conducted. This campus contains a wide variety of vegetative types and wildlife. It is the site of a year-round general research and forest management program.

Established in 1932 and comprising nearly 15,000 contiguous acres, the Huntington Wildlife Forest at the AEC is a living laboratory that provides unparalleled opportunities for research about forest and stream ecosystems. Current research at the Huntington Forest includes long-term and short-term studies on biogeochemistry, bio-diversity, hydrology and climate, wildlife ecology, silviculture, and the effects of land use changes on forests and streams. The forest's vastness provides a variety of habitats for wildlife and is home to resident or transient populations of moose, grey wolf, bobcat, lynx, black bear, deer, porcupine, fisher, pine martin, snowshoe hare, goshawk, ruffed grouse, and many more species. Associated with the boreal forest biome, the trees include sugar maple, aspen, Eastern white pine, red spruce/balsam fir, paper birch, black spruce, northern white cedar, tamarack, and black cherry, among other species. The forest contains seven small bodies of water totaling more than 1,350 acres and more than 25 miles of streams.

Combining modern cafeteria, housing facilities, and meeting rooms with a remote and spectacular wilderness setting, the AEC provides a retreat-like atmosphere for education programs and meetings. Programs can be conducted any time of year and can span days to weeks. Most research, short courses, and meetings are developed by faculty at ESF but about 30 percent of program activities are conducted by scientists and professionals from other institutions and governmental agencies. The Adirondack Interpretive Center, under cooperative agreement with the Adirondack Park Agency, is located on the property and open to the public throughout the year.

Tully Campus

www.esf.edu/campuses/tully.htm

The Tully Campus consists of the Heiberg Memorial Forest and the Tully Field Station. Situated on the northern end of the Allegheny Plateau, the Heiberg Memorial Forest includes more than 4,000 acres of diverse terrain and forest growth. Located only 25 miles from the College's main campus in Syracuse, the forest is used intensively for field research, instruction and demonstration sites for all curricula on a year-round basis. Classroom facilities are available for scheduled course work, seminars and meetings. The property is most heavily used by students in field laboratory courses during the academic year, while research is conducted at all times of the year.

Originally one of the first of New York's state forests, the former "Tully Forest" was transferred to the College in 1948 "in order to have near Syracuse a sizable forest property on which the College could instruct students, carry on research, and provide a practical demonstration in wise use of forest land." The property was renamed the Svend O. Heiberg Memorial Forest in 1965 in honor of the late ESF Professor Svend O. Heiberg, a pioneer in American forestry research.

Wanakena Campus

www.esf.edu/rangerschool

The Wanakena Campus is situated on the western plateau of the "Lakes Region" of the Adirondacks. Located on the Oswegatchie River about 65 miles northeast of Watertown and 35 miles west of Tupper Lake, it includes the James F. Dubuar Forest and the SUNY-ESF Ranger School.

Since 1912, the campus and its 2,811-acre James F. Dubuar Memorial Forest have supported the College's associate in applied science degree programs in forest technology and land surveying technology. It is the oldest forest technician program in the country.

The Dubuar Forest was named in memory of James F. Dubuar, who served as director of the Ranger School for 37 years. By providing an outdoor laboratory and demonstration area for observation, measurement and practice of the concepts studied in the classroom, the forest plays an integral role in the students' learning experience.

The campus is also home to the College's Summer Session in Field Forestry, a seven-week session devoted to introductory instruction in field forestry principles and techniques. Attendance at this session is required for all students entering forest resources management and forest ecosystem science.

Warrensburg Campus

The Warrensburg Campus, in the southeastern Adirondacks, consists of the Charles Lathrop Pack Demonstration Forest, an area of some 2,600 acres of heavily forested land noted for its eastern white pine stands, acid rain research, and some of the oldest experiments in forest fertilization in North America. The forest has been under intensive management since 1927 for the combined purposes of instruction, research and demonstration in forestry and allied fields.

For more than 80 years, Pack Forest has provided ESF students, faculty and scientists a forested classroom for their research and instruction. For many years, forest management undergraduates at the College spent a summer between their sophomore and

junior years in residency at Pack Forest. Here they received field training and invaluable technical skills. Although this program has since moved to the Dubuar Forest, graduate students, faculty members, visiting scientists, and continuing education classes continue to use Pack Forest a day or more at a time.

Pack Forest also hosts the New York state Department of Environmental Conservation's Environmental Education Camp, offering teens who are 15 to 17 years old a chance to explore forestry, aquatic biology, wildlife management, field ecology and other environmental issues. It is also the home of the Greater Adirondack Resource Conservation and Development Council. The property includes an 85-acre lake and several miles of trails – including the Grandmother's Tree Nature Trail – one of the few nature trails in the Adirondacks that is accessible to people using wheelchairs. It traverses a 50-acre natural area that introduces visitors to the ecology of an Adirondack old-growth hemlock-white pine forest and one of New York's historic trees.

The property is open to the public and is used by thousands of visitors for day-use recreation.

Field Stations

ESF operates several field stations, which directly support the instruction, research and public service programs of the institution.

The 44-acre **Lafayette Road Experiment Station** in Syracuse is located about three miles from the main campus and is used to support main campus academic and research programs. The station includes a tree nursery, four arboreta, two greenhouses and a research laboratory. The **Genetic Field Station** in Tully has 66 acres devoted to both short- and long-term out-plantings in support of various research projects. An irrigation system and layout of level planting sites makes it an excellent facility for developing hybrids, grafting, conducting short-term experiments, and for heritability research. Both the Experiment Station and the Field Station are used extensively for public recreation such as hiking and cross-country skiing.

The College also owns an island, featuring the **Ellis International Laboratory**, in the heart of the Thousand Islands/St. Lawrence River area off the village of Clayton. Accessible only by boat, Governor's Island is home to ESF's **Thousand Islands Biological Station** and international environmental monitoring and research activities conducted in the St. Lawrence Seaway area. Additional information is provided at: www.esf.edu/tibs/

The College has recently established a new field station for tropical studies in the Central American nation of **Costa Rica**. The 30-acre site near the Pacific coast contains a mix of dry tropical forest and pastureland, along with a wealth of vegetation and animal life. It is located on property that once operated as a farm and was donated to the College in 2007 by Arthur Sundt, a 1959 graduate of ESF, now deceased, and his wife, Mary.