



CONNECTICUT COLLEGE

Goodwin-Niering Center for the Environment



Certificate Program Handbook 2014 - 2015 Class of '17

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Goodwin-Niering Center for the Environment
Environmental Studies Certificate Program Handbook 2014-2015
For the Class of 2017

The Goodwin-Niering Center for the Environment is an interdisciplinary academic program that draws on the expertise and interests of faculty, staff and students in the liberal arts to address contemporary ecological challenges. GNCE integrates multiple areas of learning to address issues of environmental sustainability by including the arts and humanities in addition to the sciences and social sciences. Experts involved in the Center include anthropologists, art historians, economists, historians, mathematicians, philosophers, psychologists and political scientists as well as scientists specializing in botany, biology, chemistry, geology and physics.

The mission of the Center is to foster an understanding of biological diversity, the integrity of natural ecosystems and of other fundamental environmental issues both in the campus community and beyond. Its programs foster an understanding of the interaction between people and ecosystems with special emphasis on the political, social and economic factors that influence natural resource use by different cultures worldwide. The Center encourages the integration of environmental themes into courses and student projects in the social sciences, humanities, arts and natural sciences, and develops resources to support faculty and student research. It supports the Connecticut College Environmental Studies Program, the Environmental Model Committee and Sustainability Steering Committee as well as other campus environmental initiatives.

The Goodwin-Niering Center was endowed in May of 1999 with a generous lead gift from Connecticut College alumna and former trustee, Helen Fricke Mathieson '52 and her husband Drew Mathieson. It was their wish that the center be named to honor Richard H. Goodwin, Katharine Blunt Professor Emeritus of Botany, and William A. Niering, Lucretia L. Allyn Professor Emeritus of Botany. Niering and Goodwin gave over 100 years of combined service to Connecticut College. Both made enormous contributions to the field of ecology and conservation of natural areas in the state of Connecticut and across the nation. The Center is a direct outgrowth of the early ecological studies pioneered largely by Goodwin and Niering, much of it taking place in the College's Arboretum.

Connecticut College's geographic setting on the Thames River and Long Island Sound, coupled with the 770-acre Arboretum, provides an ideal location for environmental teaching and research. Over 24 courses in 12 departments emphasize ecological and environmental subjects. Lectures, conferences, seminar classes and student/faculty research opportunities are all part of Center activities. The Goodwin-Niering Center facilities include a Geographic Information Systems (GIS) computer laboratory. Here students have the opportunity use computer technologies to analyze complex spatial data and to apply GIS techniques in environmental research, planning and management.

Certificate Program

The Goodwin-Niering Center Certificate Program is designed to enhance the undergraduate experience with a strong concentration on environmental issues. Available to students in any major, it enables those who are ready for an additional academic challenge to cultivate their interest and expertise in environmental topics through coursework, an internship or research experience, and a senior integrative project. It is appealing to those who wish to blend their interest in the environment with a non-science major, and is of particular interest to students planning careers in environmental policy, law, economics or education. The Center's goals in creating this opportunity are to educate an ever-greater number of students about fundamental contemporary environmental issues and to encourage the integration of environmental themes into teaching and scholarship across the liberal arts curriculum.

Program Goals

1. Objectively assess and effectively marshal information to understand contemporary environmental problems – assessed with seminar participation, critiques of books, report on an environmental conference, and senior project report.
2. Integrate information and concepts about environmental issues from different disciplines and perspectives to achieve a creative and innovative synthesis – assessed with a report on an environmental conference and senior project report.
3. Understand connections among components of complex environmental systems – assessed with seminar participation, critiques of books, report on an environmental conference, and senior project.
4. Develop effective presentations that have high levels of rigor and clarity, and that facilitate dialogue among faculty and students - assessed with oral presentations on internship and senior project.
5. Draw connections between practical and theoretical learning – assessed with internships as well as written and oral reports on the Service Learning Project for sophomores.

Program Components

The Certificate Program consists of coursework, conferences, and seminars designed to prepare students for their internships and senior integrative projects. Interested students will be matched with a Center Adviser who will help them prepare for the application process and develop a program proposal.

1. Application:

Students apply for the Certificate Program in the first semester of their sophomore year and must have a 3.0 cumulative GPA. Under unusual circumstances, a student with a strong proposal but a lower GPA (minimum 2.8) might be accepted into the program on a conditional basis. A 3.0 GPA must be achieved no later than the end of the junior year in order for the student to continue in the program.

2. Course Requirements:

Students participate in a customized program of courses:

- ES110 Environmental Studies as a Natural Science or ES111 Environmental Studies as a Social Science is taken in the freshman or sophomore year. Students with an AP score of 4 or 5 in Environmental Studies may substitute another ES listed course.
- Three additional courses are selected in consultation with your Center Adviser to create a customized program that will help prepare you for your summer internship or research project, and your SIP. Since the goal of the certificate program is to add a different learning component to your existing major, preference is given to students who develop proposals that supplement, not duplicate, courses required for the major. Ideally, the additional courses will help provide the broad background necessary to complete a successful internship and SIP.
- Certificate Service Learning Course (ES290A). The certificate experience begins for sophomores with a course focused on local land conservation based on a working relationship with Avalonia Land Conservancy that requires students to propose and conduct projects designed to aid the group's efforts. The service-learning style course focuses on a basic understanding of the principles and values of land conservation and asks students to apply their own specific skills to help Avalonia in their conservation efforts. This course is the first part of a 4-credit course with the second part being the Certificate Seminar (ES290B) described below.
- Certificate Seminars (ES290B, ES395 or 396, ES495 and 496), taken during the spring semester of the sophomore year, one semester of the junior year and both semesters of the senior year, prepare students for their internships and senior integrative projects. These seminars provide opportunities for in-depth discussion of current environmental issues with invited speakers;

applied learning; sharing of information among students with diverse interests; and practical assistance in the planning of internships and projects and in the written and oral presentations of the results. Each semester the seminar has a different environmental theme. These seminars are also specifically designed to foster a peer-to-peer learning situation in which students who have gained expertise in their chosen area of environmental interest by their senior year share their knowledge with the class. Students from each of the classes benefit from their interactions at different stages of their Certificate Program and from their participation as a member of a team with shared experiences over a three-year period. ES290B is part of the 4-credit sophomore-level course. ES395, 396, 495 and 496 are all 2-credit courses. Credits cannot be counted towards the general education requirements or the environmental studies major.

3. **Conference and Events Requirement:**

Students are expected to be active participants in workshops and special events sponsored by the Goodwin-Niering Center each year. For example, each fall the center hosts a special Fall Banquet event that students attend and seniors give presentations. Students also attend the biennial Elizabeth Babbott Conant Interdisciplinary Conference on the Environment. A five-page paper will be due two weeks after the end of the conference.

4. **Internship/Research Project:**

Students will participate in an approved environmental internship or a faculty supervised research project for eight to ten weeks during the summer after their junior year. This experience will be funded but does not carry any academic credit. Students are required to participate in CELS workshops during their sophomore and junior years in order to maintain eligibility for a funded internship. The Center staff and faculty will assist the student in finding and selecting an internship or research project that is closely related to the student's planned senior integrative project.

5. **Senior Integrative Project:**

A project that integrates the summer experience with the rest of the student's Certificate Program may be completed as a one or two-semester individual study, or an honors thesis in the major field. Public presentation of the results is required. The final grade for the senior integrative project is the responsibility of the faculty Adviser who supervised the study.

Application Process

On the application students are asked to outline a comprehensive and detailed plan that connects elective course offerings, internship possibilities and a related Senior Integrative Project. The first step to develop this plan is the student's identification of a general area of interest that can be further narrowed to a more specific idea in consultation with a Center Adviser who will be assigned to each student based on a pre-application meeting with the Center's Assistant Director early in the application process. When students first meet with their Center Advisers, they should be prepared to discuss their general areas of interest. In anticipation of the meeting with the Center Adviser, it is helpful for applicants to answer the following questions for themselves:

- What environmental issues most interest or concern me?
- What environmental courses or subjects have piqued my interest in the past?
- What area of expertise would I most like to contribute to in the field of environmental studies?

The program application is completed online through e-Portfolio, and submitted to the Goodwin-Niering Center by November 14th of the sophomore year. The application should include the following:

- A completed application form
- Two letters of recommendation by faculty

- An official academic transcript
- A resume
- A program proposal of **no more than five double-spaced pages** that includes five distinct elements:
 - Personal essay about the student and why s/he would like to participate in the Certificate Program
 - A description of the student's general academic program and possible study away plans
 - A description of how the three additional courses will prepare the student for the summer internship or research project and the senior integrative project
 - A proposed internship or research project
 - A description of the proposed senior integrative project

(Note: The pre-major or major faculty Adviser should be contacted for assistance in planning the senior integrative project.)

Application Approval Process

The Application Review Committee, comprised of the GNCE Executive Committee, plus alternating faculty, will review the applications and determine whether to accept, reject or request modifications. The committee chairperson will notify students of the status of their application and will be available for consultation to students who receive conditional approval. Students who receive conditional approval must meet all requirements no later than the end of their junior year in order to continue in the program. Upon admittance into the program, students are asked to complete a student acceptance form.

The GNCE Executive Committee is responsible for approving any changes in the student's program. Students studying away during the junior year must make arrangements to obtain all necessary approvals.

- Requests for changes in approved courses must be made and approved in writing.
- A summer internship or research project must be secured by April of the junior year. The student must submit an internship learning agreement for approval prior to leaving for the internship (students studying away in the spring will need to complete this process in the fall). Students must obtain the signature of the faculty Adviser who will supervise their senior internship project prior to submitting the internship learning agreement.
- Students must submit a proposal for the senior integrative project by April of the junior year. Project Adviser approval and, where appropriate, departmental approval must first be secured.
- In the fall of the senior year any modifications to the senior integrative project must be submitted for approval. Project Adviser approval must first be secured.
- Students who study away in their junior year, during the spring semester when the Center's biennial conference is offered, must petition in advance to attend a different environmental conference and submit a conference program for approval.
- A syllabus must be submitted for any course considered and used for the Certificate Program that is not taken at Connecticut College.

Certificate Internship

An important component of the Certificate Program is a summer environmental internship or research project. The purpose of the internship is to offer students experiences that have a positive impact on their intellectual, professional and personal development through exposure to work environments that they might not otherwise encounter as an undergraduate. It is expected that students will be offered access to stimulating ideas and people in their field of study and be given substantive, meaningful work to do that will assist them in achieving their goals. Students will prepare for the internship by completing a customized program of academic courses including the Certificate Seminar.

The Center, in cooperation with CELS, will assist students in finding an environmental internship or research project in the summer following their junior year, and will provide a \$3,000 stipend for an eight to ten-week full-time position pending approval. Tuition-based internships are not permitted. All students must complete the mandatory sophomore and junior sessions offered by CELS in order to retain eligibility for a funded internship.

Students are expected to negotiate an agreement with prospective employers prior to commencing the internship, but need to understand that they may need to renegotiate the agreement once they have started work. It is important that employers understand what students desire to get out of the work experience and that they agree to a project that furthers the student's research and/or educational interests. Students also must have a clear understanding of their employer's expectations and the benefit of the internship to the organization. Students who choose to do their environmental internship in a foreign speaking country must demonstrate that they have adequate language skills to successfully complete their internship responsibilities. There are challenges associated with travel and work completed in different geographical and cultural settings. Internships proposed in a foreign country must include adequate justification for why the environmental work in the foreign country enhances understanding of the environmental issues addressed by the internship.

All students complete an internship learning agreement for approval by the Center, prior to leaving for the summer. Students are advised not to commit any funds until they have received approval by the Center. On their return, they will refine the relationship between their summer experiences and their senior integrative project. The Center will expect an evaluation of the student by their sponsor upon completion of the internship. The students will complete an internship questionnaire and reflection paper, and will make presentations in class at the annual banquet, when they return in the fall.

Criteria for Certification

The following criteria have been established for certification:

- A minimum 3.0 GPA
- Successful completion of either ES110 Environmental Studies as a Natural Science or ES111 Environmental Studies as a Social Science with a grade of B or above
- Successful completion of three approved courses related to the internship and/or senior integrative project
- Successful completion of four semesters of the Certificate Seminar (ES290, ES395 or 396, ES495 and ES496)
- Successful completion of the internship or research project
- Attendance at the Center's environmental conference and successful completion of a five-page paper
- Successful completion of the senior integrative project
- Public presentation of the senior integrative project

Students who meet all requirements will receive their Certificate of Environmental Studies at a Connecticut College Recognition Ceremony prior to graduation.

Center Location and Resources

The Goodwin-Niering Center is located in Room 109 of the Olin Science Center. The Center web site at <http://goodwin-nieringcenter.conncoll.edu> contains detailed, current information on all of our activities, as do our Facebook and Twitter pages. *Environmental CONNections*, the Center's annual newsletter, links current Certificate Program students, alumni and friends of the program. It is also available on the web site.

Faculty and Staff

	<u>Telephone</u>	<u>Campus Mail Box</u>
Jane Dawson, K.H. Harrison '28 Director*	2385	5334
Glenn Dreyer, Executive Director*	2144	5625
Derek Turner, Associate Director*	2675	5606
Jennifer Pagach, Assistant Director*	5217	5293
Keleigh Baretincic, Center Assistant	5417	5293

*Executive Committee

Center Fellows

Robert Askins, Professor of Biology
Anne Bernhard, Associate Professor of Biology
MaryAnne Borrelli, Professor of Government
Beverly Chomiak, Senior Lecturer in Physics
Jeffrey Cole, Professor of Anthropology
Maria Cruz-Saco, Professor of Economics
Andrew Davis, Adjunct Professor of Environmental Studies
Ann Devlin, Professor of Psychology
James Downs, Associate Professor of History
Glenn Dreyer, Director of Arboretum, Adjunct Associate Professor of Botany
William Frasure, Professor of Government
Anthony Graesch, Assistant Professor of Anthropology
Pam Hine, Senior Lecturer in Botany
Chad Jones, Associate Professor of Botany and Environmental Studies
Rich King, Williams Mystic Program
Ralph Lewis, Connecticut State Geologist Emeritus
Manuel Lizarralde, Associate Professor of Anthropology and Ethnobotany
Stephen Loomis, Professor of Biology
Karina Mrakovcich, USCG
Michelle Neely, Assistant Professor of English
Rachel Spicer, Assistant Professor of Botany
Peter Siver, Professor of Botany
Rachel Spicer, Assistant Professor of Botany
Douglas Thompson, Professor of Physics
Mei Zhang, Assistant Professor of Economics
Marc Zimmer, Professor of Chemistry

Advisory Board

Allen Carroll '73, Program Manager, Arc-GIS On-line Content
Wendy Blake-Coleman '75, Office of Environmental Information, US EPA
John Cook, Vice President, Northeast/Caribbean, The Nature Conservancy
David Foster '77, Director, Harvard Forest, Harvard University
Linda Lear, '62, Environmental Historian; Connecticut College Board of Trustees (retired)
Ralph Lewis, Connecticut State Geologist (Retired)
Helen Mathieson '52, Connecticut College Board of Trustees (Retired)
Edward Monahan, Director, Connecticut Sea Grant College Program (Retired)

2014– 2015 Tentative Certificate Program Calendar

Class of 2017-Sophomores

September

- Attend an informational meeting in September and submit pre-application form.
- Make an appointment with the Assistant Director to discuss application requirements.
- Register for all mandatory CELS workshops.

October-December

- Meet with Center Adviser and pre-major or major Adviser to discuss application process, additional courses, proposed internship/research project and senior integrative project.
- Register for ES110 or ES111, if neither course was taken as a freshman.
- Submit program application on e-Portfolio and hard copy to the Center by **Friday, November 14, 2014.**
- In December, students are notified of their application status. If accepted into the program, complete a student acceptance form. Students with conditional acceptance submit a revised application before beginning of spring semester.

January

- Register for all mandatory CELS workshops.
- Commence spring semester Certificate Seminar.

February-April

- Register for approved certificate courses.
- Attend conference hosted by GNCE.

May

- Attend senior integrative project public presentations.

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For questions regarding the Goodwin-Niering Center for the Environment and the Certificate Program in Environmental Studies, please contact goodwin-nieringcenter@conncoll.edu