

Learning Goals for Undergraduate Conservation and Resource Studies Majors

Undergraduate Student Learning Initiative
University of California, Berkeley

Conservation and Resource Studies (CRS) is an interdisciplinary major designed for students interested in environmental issues and interactions among disciplines related to natural resources, population, energy, technology, societal institutions, and cultural values. Because CRS students draw on the course offerings of the entire campus, they have the flexibility to incorporate any combination of courses in the social sciences, biological sciences, physical sciences, or humanities to address complex environmental problems. Students may also draw upon appropriate community resources in the development of individual programs of study. Despite the flexibility and breadth, all CRS curricula share a demonstrable commitment to gaining a truly interdisciplinary education.

When they graduate with a CRS major from UC Berkeley, undergraduates should have the following knowledge and skills:

- 1.0 Understand environmental issues and interactions among disciplines related to natural resources, population, energy, technology, societal institutions, and cultural values.
 - 1.1 Understand the ways in which natural resources are central to the continued welfare of human society and the non-human world.
 - 1.2 Critically analyze the ways in which human population growth affects natural resources and human well-being and survival.
 - 1.3 Recognize the ways in which energy growth and energy systems affect the long-term welfare of both the earth and its human inhabitants.
 - 1.4 Evaluate the ways in which industrial, biological, and appropriate technologies and technological scales impact human society and life on earth.
 - 1.5 Understand the interactions among social, political, and cultural institutions and values and how they affect the conservation of natural resources.

- 2.0 Comprehend the different ways in which the social sciences, biological sciences, physical sciences, and humanities address complex environmental problems.
 - 2.1 Recognize the frameworks and methods used by the social sciences in approaching and resolving environmental problems.
 - 2.2 Grasp the methods and analytical concepts used in the biological and physical sciences in solving environmental problems.
 - 2.3 Be able to explain the role and importance of the humanities in resolving environmental problems.
 - 2.4 Identify the aim of one's own education as truly interdisciplinary and select the courses that will allow its achievement.

- 3.0 Have the ability to draw upon appropriate community resources in the development of approaches to environmental problem-solving.
 - 3.1 Know how to identify and find local organizations that are working to improve the environment.
 - 3.2 Develop the skills that will assess the value of community efforts and methods regarding conservation and environmental issues.
 - 3.3 Use access to community groups to introduce ideas that may be applicable to the particular problems with which they are engaged.
 - 3.4 Advance an argument for a policy or regulatory action on any issue in the environmental field with a technical or scientific component

- 4.0 Be able to address diversity in both human society and the environment.
 - 4.1 Explain the historical and cultural origins of diversity within human societies.
 - 4.2 Understand how power, prejudice, and poverty can create disparities within society and how these disparities might be overcome.
 - 4.3 Assess the importance of biotic diversity for conservation and human welfare.
 - 4.4 Understand how biological diversity and cultural diversity can interact in ways that can conserve life on the planet.
 - 4.5 Learn to live with biodiversity and cultural diversity in all aspects of life.

- 5.0 Apply basic skills in research, knowledge of literature, analysis, and communication
 - 5.1 Write clearly, demonstrating the ability to focus and elaborate on chosen topics
 - 5.2 Read critically and assess arguments in professional, public, and advocacy literatures
 - 5.3 Have strong communication skills (written and oral) through presentations, facilitation of discussion, and written assignments
 - 5.4 Produce written analyses and reports based on literature, scientific and field studies, and community resources
 - 5.5 Have strong library and internet research skills in order to conduct research on environmental topics that they may work on in their future careers.
 - 5.6 Have advocacy writing skills in order to communicate scientific ideas and environmental perspectives to a broader public through a media outlet
 - 5.7 Be able to work cooperatively in team settings to connect with others and prepare for global citizenship.

- 6.0 Lifetime skills
 - 6.1 Show concern for the natural environment and its biotic and abiotic components.
 - 6.2 Be able to engage in the conservation of natural resources as a responsible citizen of the community and the world.
 - 6.3 Know how to obtain the information that will lead to informed choices and decisions about the impact and importance of natural resources in maintaining a viable planet for future generations.

**TABLE
INTERSECTION OF GOALS AND CURRICULUM REQUIREMENTS**

Program Level Skills	Science: Lower Division Core (2, 6, or 10)	Social Science: Lower Div Core (11, 12, 50 or 60)	ESPM 90 Intro to CRS	ESPM 100 Environmental Problems	Area of Interest Courses	ESPM 194 Senior Seminar	Internships; Honors; Extra-curricular
1 Env. Issues							
1.1 Natural Resources	X	X		X	X		
1.2 Population	X	X		X	X		
1.3 Energy	X	X		X	X		
1.4 Technology	X	X		X	X		
1.5 Institutions	X	X		X	X		
2 Knowledge Fields							
2.1 Social sciences		X			X		
2.2 Sciences	X				X		
2.3 Humanities		X			X		
2.4 Education	X	X	X	X	X	X	X
3 Community Sources							
3.1 Organizations			X	X		X	X
3.2 Methods			X	X		X	X
3.3 Ideas			X	X		X	X
3.4 Policy&Regulation		X				X	X
4 Diversity							
4.1 Origins		X			X	X	X
4.2 Power		X			X	X	X
4.3 Biotic	X	X	X	X	X	X	X
4.4 Cultural		X	X	X	X	X	X
4.5 Live with Diversity	X	X	X			X	X
5 Basic Skills							
5.1 Write critically	X	X	X	X	X	X	X
5.2 Read clearly	X	X	X	X	X	X	X
5.3 Communication	X	X	X	X	X	X	X
5.4 Analysis	X	X		X	X	X	X
5.5 Research				X		X	X
5.6 Advocacy						X	X
5.7 Cooperation				X		X	X
6 Lifetime Skills							
6.1 Env. concern	X	X	X	X	X	X	X
6.2 Citizenship	X	X	X	X	X	X	X
6.3 Informed choices	X	X	X	X	X	X	X

X = course area with a major emphasis in a goal or skill

Communicating Learning Goals to CRS undergraduates

The learning goals will be included in the CRS Handbook for CRS undergraduate majors:

http://espm.berkeley.edu/ugmajors/CRS/CRS_Handbook.pdf

They will also be posted on the ESPM departmental website under Undergraduate Majors:

<http://espm.berkeley.edu//ugmajors/index.php>

We shall also include them in the course syllabi of our three major core courses: ESPM 90, 100, and 194. In addition, a central page for all CNR majors will be created which will contain the learning goals in PDF format.

Assessment of Major's Attainment of These Goals

We plan to administer an exit survey of these goals and skills in the senior seminar, ESPM 194, and to initiate discussion with CRS majors as to their level of satisfaction with the attainment of the goals. We shall use the results to improve the major and its courses.

What is Needed to Implement These Goals?

The major has been expanding markedly over the past several years with renewed concern about the environment and especially the impacts of climate change on nature and on society. We need additional student services personnel to meet with students and assist them in advising and curricular choices in this complex milieu. We need additional Graduate Student Instructors to expand the lower- and upper-division core offerings. We very much need additional funds for field trips integral to ESPM 100, the upper-division core course. We need to involve our junior faculty members in the three core courses of the major: ESPM 90, 100, and 194 in order to rebuild and ensure the major's viability for the long term. We plan to reconstitute the Committee-in-Charge for the CRS major in order to involve more ESPM faculty more directly in teaching the core courses on a rotational basis.