Huxley College of the Environment
Accreditation Review Preparation

➢ The names of the individuals responsible for assessment coordination in each department:
  ▪ Leo Bodensteiner, Chair, Department of Environmental Sciences
  ▪ Thomas Terich, Chair, Department of Environmental Studies: Policy, Planning, Education and Geography

➢ The name of the individual or committee responsible for your college’s assessment activities:
  ▪ Brad Smith, Dean, Huxley College of the Environment

➢ A brief summary of each department’s assessment activities over the past two years:

Huxley College of the Environment actively participates in ongoing, continuous assessment, including:

  ▪ Conducted listening sessions with internal and external stakeholder constituent groups (alum, graduate students, undergraduate students, faculty, staff, employers and potential employers) - Discussions held with employers who hire (or provide internships for) graduates/current students to assess skill development provided by Huxley College’s academic offerings.

  ▪ Revised Strategic Plan - College approved June 2009 (see appendix)

  ▪ Department of Environmental Studies ad hoc Curriculum Visioning Committee (created in AY 2009-10); bi-weekly meetings

  ▪ Bi-weekly Huxley College Curriculum Committee meetings

  ▪ Semi-annual all-college retreats

  ▪ Monthly all-college meetings

  ▪ Bi-weekly individual department meetings

➢ A summary of how each college and department has “closed the loop” by using assessment data to make program improvements.

  ▪ See attached “Closing the Loop Report” for each department
Closing the Loop Report

Department:
Department of Environmental Sciences, Huxley College of the Environment

Departmental Mission:
The mission of the Department is to be a regional partner and national leader in environmental science and management, research and education; providing information and training to both students and professionals in the environmental sciences.

Student Learning Outcomes Assessed:
We teach environmental sciences by having the students participate in the process to the point where they can perform research, transmit the results to the scientific community, and participate in the environmental management process. Each objective is presented in more detail below.

Perform Research
Obtaining information that accurately reflects the nature of the environment.
- The student will understand the basic philosophies of the scientific method and the culture of the scientific community specific to the areas of emphasis.
- The student will be able to read and critique the scientific literature appropriate for their area of emphasis.
- The student will become versed with experimental design and laboratory/field research methods in each of the five areas of emphasis and be able to perform each at a professional level.
- The student will become versed with data analysis methods and modeling techniques in each of the five areas of emphasis and be able to perform each at a professional level.

Transmission of Scientific Results
Results from modeling, field research, laboratory experiments and other avenues of investigation can not be applied to understanding the environment unless it is presented as a talk or poster at a scientific conference or published as a manuscript. In order to meet this goal the students will have specific skills.
- The student will be able to summarize the results of a laboratory, field or model based research, or a summary of current literature in the three dominant methods of scientific communication.
- The student will be able to construct and present an oral presentation using current computer based techniques for preparation of graphs, tables and graphics that summarizes the results of a scientific investigation.
- The student will be able to construct and present a platform (poster) presentation using current computer based techniques for preparation of graphs, tables and graphics applicable to this format.
- The student will be able to prepare a scientific manuscript using a first--person active voice style following the typical manuscript requirements for journals appropriate to the five areas of emphasis. Graphs, tables and other materials will be produced in a manner reflecting the requirements of the type of publication.
Participate in the environmental management process
In the environmental sciences information is generated to inform the management process for environmental systems for all levels of governmental agencies, Non-governmental organizations and industry. Students need to be able to integrate the science into this broader process and need the knowledge and skills to accomplish this task.

- The student will become familiar with the appropriate International, Federal, State and Local legislation governing the management of environmental systems and the goals of each.
- Students will be knowledgeable of State and other agencies and the missions of each that manages natural resources or environmental services.
- Students will acquire the skills necessary to working within interdisciplinary groups including other specialists, managers and representatives of the non-technical public.
- Students will become familiar with a number of decision making tools, such as risk analysis, so that they are familiar with the processes.
- The success of this approach is in part reflected by the continuing demand for our program and the success of its graduates. However, we take care to track the true measure of success in the sciences, the transmission of research to the scientific community. One of the outstanding aspects of the Department is the publication and presentation record of our undergraduate and graduate students.

Outcome Assessment Activities:
- Conducted listening sessions with internal and external stakeholder constituent groups (alum, graduate students, undergraduate students, faculty, staff, employers and potential employers) - Discussions held with employers who hire (or provide internships for) graduates/current students to assess skill development provided by Huxley College’s academic offerings.

- Revised Strategic Plan - College approved June 2009 (see appendix)

- Department of Environmental Studies ad hoc Curriculum Visioning Committee (created in AY 2009-10); created to mirror success of Environmental Sciences Department in assessment and streamlining of degree emphasize and tracks offered in previous years

- Bi-weekly Huxley College Curriculum Committee meetings

- Semi-annual all-college retreats

- Monthly all-college meetings

- Bi-weekly individual department meetings

Results/Program Improvements Made on the Basis of Assessment Results:
Huxley College of the Environment actively participates in continuous assessment of curricular offerings – resulting in ongoing course creation, revision and elimination, as necessary.
Closing the Loop Report

Department:
Department of Environmental Studies: Policy, Planning, Education and Geography; Huxley College of the Environment

Departmental Mission:
The mission of the Department of Environmental Studies is to affirm and work within the broader mission of Huxley College -- *interdisciplinary education for undergraduate and graduate students through diverse programs*. Through the integration of the natural and social sciences, and allied professions, the Department endeavors to educate problem solvers who are able to meet the environmental challenges of our times.

Student Learning Outcomes Assessed:
As a first step to assessment, we identify the attributes of a Huxley graduate. These attributes, hopefully, are the result of achieving expected learner outcomes in coursework and other experiences (such as internships and capstone courses), and thus the achievement of our programmatic objectives.

The attributes of a Huxley graduate are as follows:

- Understand the natural environment as a system and how human enterprise affects that system.
- Acquire the knowledge and skill to apply a systems approach to the analysis and management of natural and human-made environments.
- Understand that the modern world is an entity that is ecologically, economically, and politically interconnected and interdependent and what the implications are of this for environmental problem solving.
- Be able to deal in complex wholes – to view the self and social situation in their full ecological, cultural, and social context.
- Understand the temporal dimension of the environment, including what forces have created the contemporary environment and what effects current behavior may have on future environments.
- Perceive the future of society and environment as a range of alternate possibilities, which will be determined by the policies and decisions of the present, and understand the processes through which these policies and decisions are made.
- Acquire a measure of logical skill in working through the moral dilemmas implicit in the assignment of social priorities and in the risks involved in seeking to attain those priorities.
- Acquire specific skills necessary to achieve understanding of and solutions to environmental problems, including those necessary for assessment of environmental impact of human activity, and for monitoring of the health of environmental systems.
- Be prepared for entry into professions involved in environmental monitoring, assessment, management and education, and/or for entry into graduate and professional school.
Three common components of learning reflected in these attributes are of interest across all programs: content knowledge, intellectual development, and problem solving skills. Together these reflect some important goals for all of our courses.

Other examples of assessment are:

- Use of Capstone courses. The complexity of thinking and depth of course work indicates to what extent the student has been able to integrate study at Huxley into real-world problem solving.
- Use of Internships and final projects. These contain the elements of the entire suite of skills a Huxley grad should have. Advisors approve the internship reports and final projects in light of the goal statements that the student specifies.
- Development, implementation, and administration of alumnae survey. This comprehensive survey, the results of which were mentioned throughout this review, offers detailed information on the success of our graduates, and strengths or weaknesses of the program, as expressed by the graduates now in the workforce.
- Use of Huxley Advisory Board, which counsels on the real-world utility of certain features of our curricula, and the attributes of a successful Huxley graduate.

Learning Outcomes, Assessment, Program Improvement by Specific Program

Planning and Environmental Policy

Program Skills Objectives

- To introduce integrative approaches to understanding of human/environment interactions.
- To encourage the identification of problem analysis skills and evaluative methods in the evaluation of policy alternatives.
- To construct methods for alternative policy analysis and construction of policy action plans.
- To develop skills to evaluate assumptions, values, beliefs, regarding diverse local, regional, national, and global issues.
- To assist students in developing improved environmental literacy as it pertains to human and environmental balance.
- To provide students with the analytical tools needed to assess impacts to human and environmental resources.
- To assist students in locating and analyzing research and reports in the field of environmental policy and planning.
- To assist students in engaging in critical thinking about issues and concepts in environmental policy and planning.
- To assist students in gaining active listening behaviors which are demonstrated through such skills as asking questions of clarification, offering constructive feedback, summarizing group comments, nodding in affirmation while others are speaking, paraphrasing for comprehension, etc.
- To assist students in gaining a greater understanding of the complexities of diverse perspectives, including appreciation for social, political, and cultural contexts.
• To assist students in actively incorporating diverse perspectives into group decisions when appropriate.
• To assist students in writing and speaking effectively and persuasively. To assist students in successfully working in uncertain settings with conflict.

Environmental Education

In terms of program goals, the graduate in environmental education will:

1. Achieve a level of environmental literacy sufficient to enable them to educate others;
2. Be knowledgeable of the goals, theory, practice, and history of the field of environmental education;
3. Understand and accept the responsibilities associated with practicing environmental education;
4. Be proficient in design and implementation of effective instruction about the environment;
5. Be proficient in facilitating learning about the environment and about issues and problems of that environment; and,
6. Be able to effectively assess and evaluate the outcomes of environmental education instructional programs.

In terms of program objectives,

Goal #1: The student will achieve a level of environmental literacy sufficient to enable them to educate others.

• Objective #1. The student will demonstrate skills of questioning, analysis, and interpretation.
• Objective #2. The student will gather information on complex questions, analyze that information, and explain conclusions drawn from this analysis in written and oral presentations.
• Objective #3. The student will describe the earth as a physical system and how human societies do and have in the past interacted with and affected that system.
• Objective #4. The student will describe the perceptions of nature that have governed human interactions with the environment over time.
• Objective #5. The student will exercise skills in analyzing issues about the environment, reviewing a range of positions on issues, and making decisions regarding resolution of issues.
• Objective #6. The student will be motivated to learn about, evaluate, and act on environmental issues.
• Objective #7. The student will enjoy a sense of self efficacy regarding the challenges of addressing and solving environmental issues and problems.

Goal #2: The student will be knowledgeable of the goals, theory, practice, and history of the field of environmental education.
• Objective #1. The student will be able to state the goals of the field of EE as described in the Belgrade Charter, the Tbilisi Declaration, and other historically important formulations in the field.

• Objective #2. The student will be able to define "environmental education" and explain the broad view that EE takes of "environment."

• Objective #3. The student will describe the commonly accepted qualities of good EE, including that it is interdisciplinary, integrative, and involves a process of moving learners from awareness to action.

• Objective #4. The student will be able to describe the variety of settings in which EE is commonly delivered, the difference between formal and non-formal delivery systems, and the special challenges and opportunities of the various settings.

• Objective #5. The student will be able to explain how the field has changed over time, moving from nature study to conservation education to outdoor education to environmental education and how and why the field evolved in this way.

• Objective #6. The student will be able to describe the nature and broad conclusions of environmental education research and how that has and is affecting practice.

• Objective #7. The student will identify current and emerging issues in the field.

Goal #3: The student will understand and accept the responsibilities associated with practicing environment education.

• Objective #1. The student will understand the need for fairness and balance in addressing issues of the environment.

• Objective #2. The student will accept the responsibility of developing EE that is developmentally appropriate.

• Objective #3. The student will understand and accept the challenge of relating EE to accepted curriculum standards and educational reform goals.

• Objective #4. The student will model responsible, respectful, and reasoned behavior during instruction.

• Objective #5. The student will be able to identify instructional materials, strategies, and techniques that allow learners to form their own opinion, draw informed and reasoned conclusions, and make independent judgments.

Goal #4: The student will be proficient in design and implementation of effective instruction about the environment.

• Objective #1. The student will design lessons based on knowledge of learners which will involve understanding of learning theories and theories of cognitive and moral development.

• Objective #2. The student will be familiar with instructional strategies identified by the North American Association for Environmental Education as "essential," such as: hands-on observation and discovery in the environment; inquiry; cooperative learning, community-based action research and problem-solving; service learning; and project-based learning, among others.

• Objective #3. The student will be able to plan instruction from multiple-lesson programs to individual lesson plans.

• Objective #4. The student will know of the wide range of materials and resources available for EE, and understand how to access, evaluate, and use these resources.
• Objective #5. The student will be proficient in using a range of technologies available to assist student learning.
• Objective #6. The student will be able to design safe and conducive learning environments both indoors and outside.
• Objective #7. The student can use the process of curriculum design and development that involves steps from needs assessment through development of goals and objectives to selection of content and process and assessment of outcomes.

Goal #5: The student will be proficient in facilitating learning about the environment and about issues and problems of that environment.

• Objective #1. The student will be able to create a learning climate in which learners are motivated to study the environment.
• Objective #2. The student will understand the importance of allowing learners to have firsthand experiences of the world around them, and will facilitate such experience in implementing EE programs.
• Objective #3. The student will value the diverse backgrounds and perspectives of learners and incorporate this diversity into the learning experiences.
• Objective #4. The student will understand the need for flexibility and be adept at modifying programs and lessons plans to take advantage of unanticipated learning opportunities.
• Objective #5. The student will smoothly blend a variety of instructional methods and activities to meet instructional objectives according to the learner variables present in the instructional situation.

Goal #6: The student will be able to successfully assess and evaluate the outcomes of environmental education instructional programs.

• Objective #1. The student will be skilled at writing learning objectives that clearly state the learner outcomes intended in programs and lessons.
• Objective #2. The student will identify standards (where there are any) that apply to the EE curriculum and link assessment of EE to them.
• Objective #3. The student will understand assessment and evaluation options and be adept at prescribing appropriate strategies to understand the outcomes of educational programs.
• Objective #4. The student will recognize the value of assessment and evaluation to program development and improvement, and will use them to improve future instruction.
• Objective #5. The student will understand why it is important to constantly evaluate EE programs.

Environmental Journalism

In terms of program objectives, reporting on the environment requires an understanding of science, economics, human values, and an ability to cover a contentious subject with accuracy, fairness, and balance. The environmental journalism major is designed to provide this understanding.

The first objective is to provide undergraduates with an academic foundation. To that end, prospective Huxley students complete 100-level courses in chemistry and biology, take an
additional laboratory course in physics or geology, and take basic math, economics, political science, and journalism courses.

The **second objective** is to prepare them to understand environmental issues. Majors take upper-division Huxley courses in ecological processes, applied environmental science, and select electives among environmental pollution, environmental systems, fundamentals of ecology, oceanography, the natural history of the Pacific Northwest, environmental toxicology, water quality, and wastewater treatment.

The **third objective** is to teach them journalistic techniques and ethics. Students take eight academic courses in the Journalism Department on reporting, news writing, media law, and the mass media, plus at least one quarter on each of three student publications: the *Western Front* newspaper, *Klipsun* Magazine, and *The Planet* magazine.

The **fourth objective** is to bring skills together in 'capstone' courses: environmental journalism, and *The Planet*. Here the skills they have acquired are applied to covering and writing about environmental issues.

At the conclusion of their course of study, students should be able to:

- Display critical thinking skills, verbally and in writing, about environmental issues that integrate scientific, economic, political, and moral understanding.
- Write an effective magazine-length environmental journalism essay, under deadline.
- Work effectively with their peers on student publications.
- Have some understanding of how the media works.
- Have a strong understanding of basic environmental science and research that is reflected in their writing.

In terms of **program outcomes**, the success or failure of the environmental journalism program is in part on public display in published student work in *The Planet*, *Klipsun*, and the *Western Front*. Additionally, their knowledge and thinking skills are tested by their upper-division writing courses: student essays are a clear indication of how successful they are in effectively using what they have been taught. Other ways in which the Environmental Journalism program can measure its success in meeting its objectives:

- Huxley College’s survey of its graduates (see Appendix 6).
- *The Planet*'s success at winning journalism awards. The publication has established a strong record in past years.
- The job-placement success of environmental journalism majors. Because journalism is more vocationally-oriented than some academic majors, its effectiveness can be assessed by how graduates are faring in journalism, environmental, or public relations careers.
- Student assessment of individual courses.

**Geography**

The programmatic **objectives** include:

- To introduce geography's integrative approach towards an understanding of human and environmental interactions;
• To enable students to recognize spatial patterns on the earth’s surface and understand the processes that create them;
• To encourage the identification and analysis of spatial patterns of human/environmental interactions for the purpose of prediction and policy action;
• To help students to evaluate the assumptions, values, beliefs, and policies regarding diverse local, regional, national, and global issues;
• To have students gain an understanding of and appreciation for the diversity of national and global cultures;
• To assist students in developing improved understanding of geographic literacy: space, place, and relative and absolute location as it pertains to human and environmental conditions;
• To provide students with the analytic tools needed in order to assess human and environmental issues/problems using the latest technologies, i.e., Geographic Information Systems and Global Positioning Systems;

Outcome Assessment Activities:

• Conducted listening sessions with internal and external stakeholder constituent groups (alum, graduate students, undergraduate students, faculty, staff, employers and potential employers) - Discussions held with employers who hire (or provide internships for) graduates/current students to assess skill development provided by Huxley College’s academic offerings.
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