United Kingdom Fisheries and Wildlife Conservation, Policy, and Criminology:

**ISB 202**: Applications of Environmental and Organismal Biology

**ISP 217**: Water and the Environment

Summer Session, 2011 (May 15th – June 11th w/ pre-course preparation beginning in April)

**Scope and Objectives of the Courses**

The ISB 202 & ISP 217 courses will provide a multi-disciplinary approach to enhancing student understanding of complexity of sustainably governing and managing coupled-human and natural resource systems. The courses will expose students to impacts of globalization on environmental resources, the challenges of conserving biodiversity, fisheries, and wildlife resources in developed nations both at the local, national, and international level with a particular emphasis on the need for conservation enforcement and regulations/laws that are enforceable, and to facilitate a comparison between the U.S., the United Kingdom, and particularly other European Union nations. The program will also expose students to theoretical and applied scientific principles related to the environmental health and natural resources productivity of the U.K. and its biota. As such, this course will provide for an understanding of the integrated nature of biological systems, their structure and function, and their alteration by local and global environmental, social, and political activities. We will be comparing and contrasting the U. K. with other regions of the world and in particular with the Great Lakes Basin ecosystem. All concepts will be presented in a historical and geographic context, which will be emphasized by hands-on learning experiences and observations of present day systems and evidence of past system configuration and their function.

National and E.U. fisheries ecosystem management will be explored in detail, with
emphasis on fishery resource conservation and management, the controlling biological factors of fishery productivity and their sustainability, the restoration of aquatic habitats, and enforceable conservation regulations. The courses will discuss the specific pressures, both positive and negative, on a society’s natural resources associated with the acceleration of globalization since the 1950s. We will look at the evolution of environmental survey methods, management initiatives, and governance institutions and their interaction societal changes in their valuation of natural resources (e.g., intrinsic-value, market-value). Discussing the entire process of environmental management, from basic research techniques through to policy creation and legal enforcement will expose the students to the range issues involved with natural resource management. To assure the students grasp the necessity of finding appropriate solutions to environmental problems, such as being culturally-sensitive and matching the capacity of the society seeking to implement needed actions, we will compare the approaches and their rational for various solutions implemented by the U.K., U.S., and Michigan to similar natural resources challenges. Students will learn, at a minimum, how societies relying on two different and distant large water bodies (i.e., the North Sea and the Great Lakes) and inland riverine systems share similar reliance on these water-bodies, face similar environmental and biological challenges, and how they have employed different policy and enforcement approaches to respond to these challenges.

ISB & ISP requirements are met through our program’s lectures, experiential components, and in-depth discussions. As the development of natural resources, societies, and their political structures are inter-linked, all discussions of natural resources availability, their productivity, their health and challenges will be related to the society’s dependence on them as well as enacted through policies that influence their management. Interactions through lectures, group discussions and experiential interactions with MSU-instructors, representative of the local scientific community in these regions, and local stakeholders will allow students to learn about the inter-relationship of social and ecological systems from both a scientific and layperson’s perspective. This will allow our students to better appreciate the contribution of both social and natural science sources of information and its importance in the development of sustainable biological and cultural environments.

We will study the nature of scientific inquiry and examine how science has or has not been used to shape environmental policy in the UK, the E.U, and globally. It is expected that students will be required to participate in pre-trip background and lab training sessions toward the end of the spring semester 2010. This will include time learning lab procedures and introductory biological science concepts so that they will be able to maximize their hands-on experience in U.K. and European government and university labs and at biological field stations.

**Course Requirements**

1. **Selected Readings from the following:**


Other readings may be assigned throughout the course and will be provided to the students.

2. Short Paper
Students must demonstrate command of the material covered in pre-departure lectures and identifying and exploring a subset of issues surrounding the regions we will be visiting; selecting a topic related to a recent or current day problem found in Scottish and British society, which has an integrative environmental, political, and criminology focus. Each student will be required to type a short paper (3-5 pages, double space) for this class that demonstrate your ability to understand and integrate class material. Students will need to use information from multiple lectures and reading materials to provide an overview of the topic, evaluate the issue, and provide recommendations; referencing lectures and class readings to support statements that demonstrate an understanding of coupled human and natural systems related to the selected topic. Papers will be graded based on the clear and brief overview of the issue, proper use of reading material and lectures to support your argument, synthesis of what you have learned from this class to make your own recommendations, use of appropriate references and the logical structure of your paper. Late papers will receive deductions of 5% for each hour late. The purpose of the short paper is to familiarize students with an environmental, political, or criminology problem in present-day U.K.; and to introduce students’ to the comparative, integrative, and critical approach used in this program. We may also ask students to read a book and report on that in relation to what they have learned from lectures.

3. Informal Oral Presentation
Students will share their findings with their colleagues while we are in the relevant regions. This will give students experience in public-speaking, presenting their findings orally, and engaging in a constructive dialog and search for solution that are biologically, socially and culturally feasible.

4. Topic questions
Students will be asked to construct 5 to 10 questions related to an integrative topic they have learned about during the study abroad program that they find interesting and are considering for their final paper. The purpose is to have students beginning the process needed for the identification and selection of a feasible and instructor-approved case study for their final paper.

5. Paper Outline
Students will be asked to prepare and submit an outline of their thesis for their proposed paper to the instructors during the study abroad component of the course. Instructors will meet with each student to help refine the outline to detail the integrative nature of their thesis on fundamental biological systems linked to the interaction of embedded and reliant social systems in the basin. The purpose is to have students engage in the second step of preparing to research and write their final paper. Provide an opportunity for instructor feed-back prior to the student formally researching and writing the paper.
6. Final Paper
This final assignment will be a 10 to 15-page synthesis paper using a multidisciplinary approach that analytically and critically examining the inter-relationship between the social and ecological systems that influences the health of the environment and people of the region. Students will be expected to use appropriate documentation to support their arguments. The topic will be identified and approved by the instructors in the previously related assignments (Topic Questions, Outline). The topic will involve a problem of concern from the U.K. discussed during the program. Students will be expected to use the knowledge gained from MSU-instructors, local experts, previous related assignments as well as the experiences throughout the overseas study. The purpose is to evaluate the students’ ability to clearly present an integrative case study using knowledge gained from different disciplines, their ability to analytically and critically discuss the selected topic, and their ability to provide appropriate sources (scientific, personal experience, program based material) in support of their arguments.

7. Learning Points-Reflective-Journal
Students are required to take notes during all program related lectures and experiential activities. Students will be expected at the end of each instructional day to reflect on what they have learned, as well as to relate their learning to previous learning related to the U.K. and E.U. as well as the U.S.A. Comments on learning/experiences outside the instructional hours which are contributing to their learning experience are encouraged to be included. The purpose is to assist the student in understanding and integrating the intense, integrative, instructional objective of the program. As well as assisting instructors in evaluating students’ comprehension and integrative abilities.

8. Participation
Students will be expected to actively participate in all lectures, discussions, and experiential activities as to maximize the student’s learning experience. The purpose is to maximize the students learning experience.

Determinants of Grades:

<table>
<thead>
<tr>
<th></th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short papers/topic questions/outline/presentations</td>
<td>20%</td>
</tr>
<tr>
<td>Classroom Discussion and Group Participation</td>
<td>20%</td>
</tr>
<tr>
<td>Journal</td>
<td>20%</td>
</tr>
<tr>
<td>Final Research Report</td>
<td>40%</td>
</tr>
</tbody>
</table>

Academic Honesty:
ISB 202 & ISB 217 will be conducted according to the university's policies on academic honesty/dishonesty. If you need clarification on these policies, please speak with the instructor or the College's Associate Dean for Undergraduate Studies. Article 2.3.3 of the Academic
Freedom Report states "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." In addition, the Center for Integrative Studies General Science adheres to the policies on academic honesty as specified in General Student Regulations 1.0, Protection of Scholarship and Grades; the all-University Policy on Integrity of Scholarship and Grades; and Ordinance 17.00, Examinations. (See Spartan Life: Student Handbook and Resource Guide and/or the MSU Web site: www.msu.edu.)