MARS 689/489 (to be MARS 423) Ecological Economics
Spring 2011

Meeting times & location: W 6:00pm – 8:50pm, PMEC 148

Instructor
Dr. Jae-Young Ko, Assistant professor, Dept of Marine Sciences.
Email address: koj@tamug.edu; Office phone: 740-4919;
Office location: Ocean and Coastal Studies Building, Rm 357.
Office Hours: TR, 11am-Noon Also I will be available for additional times after making
prior arrangements through email or phone.

Course Rationale/Description

Ecological Economics is an effort to integrate the study of management of ‘nature’s
household’ (ecology) and ‘humankind’s household (economics). This integration is
necessary because conceptual and professional isolation have led to economic and
environmental policies that are mutually destructive rather than reinforcing in the long
term. Besides appealing to ethical concerns and economic benefits of the nature to
human beings, the integration of human economies and nature's economies in a
systematic way, and quantification of the complex connections between humans and
nature in a monetary and non-monetary ways allow us to conduct non-anthropogenic
approaches, putting the value of ecosystem integrity as high as human needs.

- The course covers 1) why a new approach is needed to explain the complex
interplay of nature and human society, 2) intellectual history of ecological economics, 3)
thermodynamics and energy flow in economic activities, 4) critical reviews of market
function, 5) monetary and non-monetary (embodied energy) valuations of ecosystem
services, 6) policy implications, and 7) case studies of coastal, estuarine, and marine
resource managements.

- The first half of the daily class will be a lecture-oriented format, and the second
half will be lab-oriented for group project.

Prerequisite: Jr. or Sr. standing; Credit: 3.

Learning Outcomes
Student will be able to
1. explore complex interplay of the nature and the human society from a holistic
view,
2. realize the nature and extent of human impacts on the natural environment
through a systems approach,
3. explore several ways to value diverse services of natural ecosystem in a
comparative way,
4. develop skills in analyzing environmental and managerial problems and
proposing policy implications, focusing on coastal, estuarine, and marine
ecosystems through group project, and
5. build skill for effective presentation through class presentation and the student
symposium
Textbook

We will use the class webct as additional teaching tool.

Course Requirements and Grading
1. Class attendance (10%)
2. Mid-term exam (30%),
3. Paper of the group project (40%)
4. Presentation of the group project (20%)

No final exams for this class!

Requirements for the group project: Students are expected to join a group (max: three students per group) and develop a group project for a certain ecosystem (e.g., Galveston bay), a human community (e.g., city of Houston), a state (e.g., Texas), on multiple policy issues (e.g., coastal and fishery managements) through a research process: 1) problem definitions, 2) interaction description between mankind and a natural environment, and 3) suggestions for better resource management. The project topic can also be decided through discussions in class. Detailed project guidelines will be distributed later.

Late Work Policy: Late assignments will receive an automatic five-point deduction (in the 100 point scale) for the first week. No assignments will be accepted after the first week extension, unless lateness is related to a University excused absence.

Grading:
The grading scale is as follows:
A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=59% and below.

Tentative Schedule:
(This schedule is subject to change as the semester proceeds.)

Week 1. 1/19/2010 Introduction
- Introduction and description of the class

Week 2 (1/26) Why a new approach to the interplay of nature and society
- Discussion of group project

Readings
Daly and Farley. Ch. 1-3.
Optional readings

Week 3 (2/2) Historical perspectives of ecological economics
• Conducting group project

Readings

Week 4 (2/9) Theoretical frameworks (1)
• Conducting group project

Readings
Daly and Farley. Ch. 4 & 14.

Week 5 (2/16) Theoretical frameworks (2)
• Conducting group project

Readings

Optional readings
Week 6 (2/23) Abiotic and Biotic Resources & Review for the first half
  • Review of the covered materials for the mid-exam

Readings:
Daly and Farley. Ch. 5-7.

Week 7 (3/2) Mid-term exam
  • Multiple short essay questions. No multiple choice questions.

Week 8 (3/9) Market
  • Conducting group project

Readings
Daly and Farley. Ch. 11-12.

Optional readings
Daly and Farley. Ch. 8-10.

3/14 – 3/18 Spring break

Week 9 (3/23) Policy Implications
  • Conducting group project

Readings
Daly and Farley. Ch. 20-21.

Week 10 (3/30) Application (1): Valuation of natural services
  • Progress review of the group project

Reading

Week 11 (4/6) Application (2): Fishery management-1
  • Conducting group project
Readings

Week 12 (4/13) Application (3): emergy analysis
- Conducting group project

Readings

Optional readings

Week 13 (4/20) Applications (4): Accounting of natural capital
- TAMUG student symposium
- Discussion for the final presentation

Readings

Week 14 (4/27) Presentations from students
- Individual 15-30 minute-long presentation, followed by 5 minute discussion, depending on enrollment.
- TBA for the due date of the group project report.
Various Institution Policy Statements:

Disabilities Act (ADA) Policy Statement:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Counseling Office, Northern Student Center, or call (409)740-4587.

Plagiarism:

Plagiarism is most commonly defined as copying a portion(s) of other students’ paper(s) or some published work without proper citations. (Texas A&M University, University Writing Center, http://writingcenter.tamu.edu). When discovered, serious academic penalties will be imposed.

Statement on Absences:

Information concerning absences are contained in the University Student Rules Section 7. The University views class attendance as an individual student responsibility. All students are expected to attend class and to complete all assignments. Please consult the University Student Rules for reasons for excused absences, detailed procedures and deadlines as well as student grievance procedures (Part III, Section 45).

Statement on the Family Educational Rights and Privacy Act (FERPA):

FERPA is a federal law designed to protect the privacy of educational records by limiting access to these records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. To obtain a listing of directory information or to place a hold on any or all of this information, please consult the Admissions & Records Office.

Items that can never be identified as public information are a student’s social security number or institutional identification number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your privacy and to ensure confidential treatment of information associated with or generated by your participation in the class.

Pledge:

On all course works, assignments, or examinations at Texas A&M University, the following Honor Pledge shall be pre-printed and signed by the student:

“An Aggie does not lie, cheat or steal, or tolerate those who do. On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work.”

(Signature of student)       (date)