Course Description:
A common misperception is that economics is all about how to make money or how to run a firm. Further, economics is often seen as the source of our environmental problems, rather than a discipline that can help us improve it. In reality, economics is concerned with the allocation of the Earth’s scarce resources for satisfying the seemingly unlimited wants of individuals and society. By studying how and why people make decisions that impact environmental resources, environmental and natural resource economics focuses on how policies, institutions and information programs can be designed to achieve the best balance between the costs and benefits associated with our environmental resource use.

This course is intended for students studying business, economics and other social sciences, natural resources, environmental science, and other disciplines who are interested in applying microeconomic principles to domestic and international environmental and natural resource policy issues. The topics covered include: public goods; externalities; pollution control regulation; methods for valuing environmental resources and human health; benefit-cost analysis; the management of nonrenewable resources such as oil; and the management of renewable resources such as forests and fisheries.

Prerequisites:
The prerequisite for this class is Economics 201. You should be comfortable with the graphical analysis used in an introductory economics course, and should be able to use algebra to solve basic problems.

Course Readings:

Lecture Notes: I use PowerPoint slides during lectures, which include material not found in the text. In order to reduce your note-taking burden – which in-turn leaves more time in class for you to think, ask questions, and participate in discussion – my slides are available for purchase at Graphic Creations (1809 Lake Avenue). **During lecture I will assume you have the slides in front of you.**
Course Requirements:

**Attendance**, 5% of course grade. I will take attendance during each class meeting. Attendance on days when we do experiments will count double. Besides simply attending, you should come to class prepared to participate in discussion. There is healthy debate surrounding the majority of topics we will discuss, and I would like your opinions and comments on them.

**Problem Sets**, 35% of course grade. There will be 6 problem sets, with due dates about two weeks after distribution. Some of the problem sets will require you to write a short essay as this is a designated “writing-emphasis” course. Your lowest problem set score (even if a zero) will be dropped when calculating your course grade. Collaboration with your classmates is encouraged, although final write-up must be your own.

I strive to provide solutions to problem sets within one or two days of the due date. As such I do not accept late assignments.

**Exams**, 60% of course grade. There will be three exams, with each exam covering roughly one-third of the course material. The first two exams will take place on October 4 and November 11. The third exam will take place on the University-scheduled final exam period for this course: Wednesday, December 11 at 2:45pm. The third exam will not be cumulative.

Make-up exams are entirely at my discretion and are generally available only for students with direct UT exam conflicts or written medical excuses. To the extent possible you must make arrangements with me in advance of the scheduled exam, or will receive a score of zero.

**Extra Credit**. All exams will provide the opportunity for extra credit. For those with borderline grades at the end of the semester, I will give you the benefit of the doubt (i.e. extra credit) based on whether: your exam scores improved during the semester; you completed all problem sets; and/or you were an active participant in class discussion.

Grading Scale:
I will use the following scale to assign final course grades: 92 to 100% is an A; 89 to 91.9% is an A-; 86 to 88.9% is a B+; 81 to 85.9% is a B; 78 to 80.9% is a B-; 75 to 77.9% is a C+; 67 to 74.9% is a C; 60 to 66.9% is a C-; 55 to 59.9% is a D+; 50 to 54.9% is a D; and less than 50% is an F. I do not anticipate implementing a curve.

Students with Disabilities:
If you have a documented disability and need special accommodations, please come see me as soon as possible. Special accommodations will be handled discreetly.

Academic Dishonesty:
With the exception of collaboration on problem sets, any work submitted will be your own. I reserve the right to take appropriate actions, as mandated by University policies, in the event of suspected cheating or plagiarism.

Classroom Experiments:
There will be four in-class market “experiments” designed to enhance your learning of the course material. Economics experiments have been increasingly used to study economic theories and
policies that are often difficult to evaluate with data from naturally occurring markets. Questions relating to experiments are fair game for problem sets and exams.

**Course Website:**
This course utilizes the “Blackboard” online course management system ([https://bblearn.utk.edu/](https://bblearn.utk.edu/)). Here you will find the course syllabus, handouts, experiment instructions, assignments and supplementary reading materials as needed during the course of the semester. I will constantly update the gradebook so you can track your progress and verify that grades for assignments you turn in have been recorded accurately. Please check the website for important announcements.

**Course Outline:**
The course outline below provides the lecture schedule and associated readings. Any changes to this schedule will be announced in class and on Blackboard. You are expected to have read the materials before arriving to class.

**Part I – Foundations**
**August 21: Introduction to Environmental & Resource Economics**
Readings: Tietenberg and Lewis (TL), ch. 1

**August 23: Review of Economic Principles**
Readings: N.G. Mankiw, “[8 of] 10 Principles of Economics”

**August 26: Experiment #1 – Candy Auction**
Readings: Experiment Instructions

**August 26, 28 & 30: Model of Supply & Demand**
*Problem Set #1 distributed*
Readings: TL, ch. 2

**September 4, 6 & 9: Efficiency; Discounting & Benefit-Cost Analysis**
Readings: TL, ch. 2 & ch. 3, pgs. 50-63

**Part II – Market Failure**
**September 11 & 13: Externalities; Public Goods**
*Problem Set #1 due on September 13*
Readings: TL, ch. 4

**September 16: Experiment #2 – Public Goods**
*Problem Set #2 distributed*
Readings: Experiment Instructions

**September 18, 20 & 23: Market Provision of Public Goods – Game Theory, Property Rights**
Readings: TL, ch. 4
Part III – Pollution Control Policy
September 25 & 27: Economics of Pollution
   Problem Set #2 due on September 27
   Readings: TL, ch. 14

September 30: Experiment #3 – Cap-and-Trade
   Readings: Experiment Instructions

October 2 & October 7: Common Policies for Pollution Control
   Readings: TL, ch. 14

*****First Exam is on October 4, covering material through Sept. 27*****

October 9: Local and Regional Air Pollution
   Readings: TL, ch. 15

October 11 & 14: Climate Change
   Problem Set #3 distributed
   Readings: TL, ch. 16

October 16: Mobile Source Pollution
   Readings: TL, ch. 17

October 21: Water Pollution (time permitting)
   Problem Set #3 due
   Readings: TL, ch. 18 (skim)

Part IV – Valuation of Environmental Resources
October 23 & 25: Types of Value; Stated Preference Methods
   Problem Set #4 distributed
   Readings: TL, ch. 3, pgs. 34-49

October 28 & 30; November 1: Revealed Preference Methods
   Readings: TL, ch. 3, pgs. 34-49

Part V – Nonrenewable Resources and Energy (Guest Lecturer: Dr. Charles Sims)
November 4 & 6: Dynamic Resource Allocation & Sustainable Development
   Problem Set #4 due on November 4
   Readings: TL, ch. 5 & ch. 6

November 8: Nonrenewable Resources & Recycling
   Readings: TL, ch. 7 & ch. 19

*****Second Exam is on November 11, covering material in Parts III & IV*****
November 13, 15 & 18: Energy (Transportation & Electric Power)
   Problem Set #5 distributed
   Readings: TL, ch. 8

Part VI – Renewable Resources
November 20: Experiment #4 – Renewable Resources
   Problem Set #6 distributed
   Readings: Experiment instructions

November 22 & 25: Forests (and Biodiversity, if time permits)
   Problem Set #5 due on November 22
   Readings: TL, ch. 12

November 27 & December 2: Fisheries
   Problem Set #6 due on December 4th by 5pm
   Readings: TL, ch. 13

*****Third Exam is on December 11 (Wednesday) at 2:45, covering Parts V & VI*****