

University of Florida  
College of Agricultural and Life Sciences  
Food and Resource Economics Department

## **AEB2451 Economics of Natural Resource Use**

**Spring Term 2019**

3 Credit Hours

### **Instructor and Contact Information**

**Instructor:** Luis Moisés Peña Lévano, Ph.D.  
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Communication must include 'AEB4242 - UNIT #\_\_ + (YOUR LAST NAME AND FIRST NAME)' in order to be answered. When e-mailing me, please summarize in **one paragraph** of no more than three lines the e-mail question so that I can more effectively addressing your concerns. If you are stuck on a specific procedure, send me the picture of the problem and where you are specifically having the issue. This will help me to answer more efficiently because I am teaching multiple classes. If you do not put an effort in the question, I will not provide you the hints to solve it - *Courteous and professional* e-mails can expect a prompt reply.

*The professor reserves the right to change the terms and dates stated in this Course Syllabus depending on upcoming or unexpected events. Any changes will be communicated in class, via the Gatorlink e-mail listserv, and posted on E-Learning Canvas. It is solely the student's responsibility to stay informed of any changes*

## **General Course Information**

**Required Textbooks:** Environmental economics. Field & Field: McGraw-Hill. 3<sup>rd</sup> edition. 2001.

ISBN: 978-0-0780-2189-3

- You will need a copy of the book. This book is the base of this class and summarize different examples of current events that apply the economic principles on current cases.

**Course Description:** This course is to develop the student's understanding of environmental economics and its usefulness in providing a means for understanding how the incentives that underlie human decision-making impact the environment and the design of environmental policy. In this course, we will apply fundamental economic theory to analyze a broad range of contemporary environmental issues. We will take a closer look at issues related to the management of natural resources including water, energy, land and fisheries as they each present challenges in a policy setting. The final component of the course will address global issues in environmental economics.

This is an upper-division course and it is structured and taught accordingly. The importance in the curriculum means you should plan on spending time outside to review the in-class and online lectures. During exam weeks, the time-commitment will be significantly higher. A lower study input will more than likely adversely affect your grade.

**Prerequisites:** There are no prerequisites for this course. It meets the requirements for Social and Behavioral (S) under the general education guide lines. However, a grade of C or better is required to earn general education credit and the course cannot be taken S-U (<http://gened.aa.ufl.edu/>)

**Course objectives:** After the successful completion of this course, students should

1. Understand how economic incentives influence individual and group behavior and how this knowledge can be used to explain and address environmental challenges.
2. Develop an ability to identify the range of economic costs and benefits of a particular environmental policy and the tools that can be used to estimate these costs and benefits.
3. Improve critical thinking skills to assess the tradeoffs inherent to a broad range of contemporary environmental issues.

Apply economic concepts to an environmental issue with the goal of developing skills to communicate in an effective manner through creative work.

**Brief course outline:** The material in AEB2451 is divided in ten units

**MODULE 1 ECONOMICS OF ENVIRONMENTAL AND NATURAL RESOURCES**

1. Basis for environment and natural resource economics (January 9th)
  - Lab 1: Supply and Demand System
2. Externalities and public goods (January 16th)
  - Lab 2: Social Benefit and Cost
  - Presentations: Public Goods, Open Access Resources, Property Rights
3. The pollution-control model (January 23rd)
  - Lab 3: Marginal abatement and cost
  - Presentation: US Clean Air Act, Clean Water Act

EXAM 01 (January 30rd)

**MODULE 2: THE BENEFIT-COST ANALYSIS OF ENVIRONMENTAL REGULATION**

4. Economics and financial foundation of cost (January 30rd)
5. The cost of environmental regulations (February 6th)
  - Lab 4: Determining the cost of policies
6. Measuring the benefits of environmental policy (February 13th)
  - Presentation: Biodiversity, Toxic Substances, Ozone, Carbon Monoxide
7. Evaluating environmental projects (February 20th)
  - Lab 5 (Excel): Designing Benefit-Cost analysis projects

EXAM 02 (February 27<sup>th</sup>)

**MODULE 3: NATURAL RESOURCES AND ENVIRONMENTAL POLICIES**

8. Standard policies (February 27<sup>th</sup> and March 13<sup>rd</sup>)
  - Presentations (March 13<sup>th</sup>): Waste and pollution, Water pollution, Garbage Patches
9. Command-and-control policies (March 20<sup>th</sup> and March 27<sup>th</sup>)
  - Presentations (March 20<sup>th</sup>): Carbon Sinks, Land Sprawl, Land Leapfrogging, Sources of Air pollution
  - Lab 6 (March 27<sup>th</sup>): Cap and trade system, Carbon Taxes, and Standards

EXAM 03 (April 3<sup>rd</sup>)

**MODULE 4: GLOBAL SITUATION OF THE NATURAL RESOURCES AND ENVIRONMENT**

10. Natural resources (April 3<sup>rd</sup>, April 3<sup>rd</sup>)
  - Presentations: Indirect Land Use, coal Energy, gas energy, nuclear energy, gas extraction
  - Lab 7 (April 10<sup>th</sup>): Dynamic Sustainability
11. Climate Change (April 10<sup>th</sup>)
  - Presentations: First-Generation Biofuels, Forest Carbon Sequestration, Forestry Management, Carbon Taxes
12. International agreements (April 17<sup>th</sup>)

Final presentations (April 24<sup>th</sup>):

- Metal extraction and fracking
- Sustainable Energy Technologies
- Common-pool resources: Fisheries
- Second and New Generation of Biofuels

FINAL EXAM (May 1<sup>st</sup>)

## Evaluation of Performance and Grading

**Grades:** You have the *opportunity* to earn up to **1000** points throughout the semester. Your final grade in AEB4242 will be based composed by the following items described on the right figure.

On the other side, there are three ways to obtain bonus points:

(1) Filling the end of the semester course feedback will allow for **10 extra points**. In order to receive those points, you need to submit the screenshot of the confirmation page as a proof that you submit it. In addition, if more than 75% of the students fill the survey, everybody receives **5 possible extra points**.

(2) If your mini-project (described in the course description section) is written in a state-of-art manner. I will provide you with **10 possible extra points**.

This means that there are 25 possible bonus points. This can make a change in letters (from B to A for example). No other opportunities to increase your score will be given.

Final Grade	Minimum Score
A	930
A-	900
B+	870
B	830
B-	800
C+	770
C	730
C-	700
D+	670
D	630
D-	600
F	0

Final course grades will have the following benchmarks out on **1000** possible grade points as described on the left figure. Please note that grades are **not 'rounded' or 'adjusted'** at the end of the term. Haggling over grades at the end of the semester is NOT entertained. Of course, if I did a mistake in grading your exam I will gladly give you the correct points. If you believe that your exam is incorrectly graded or that your grade is incorrectly posted, please contact me via e-mail (i.e., in writing) as soon as possible. You have **7 days** after the grade has been posted to voice your concern. After 7 days have passed, your **posted grade will be assumed to be correct and accurate**.

For general information about grading and grading policy at the University of Florida, please refer to:

<http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>.

**Review quizzes:** Each unit is divided in chapters. There are pre-lab questions provided to help you in focusing in the important aspects that we will cover. From these questions, I will choose randomly one which will serve as a quiz.

**Lab question quizzes:** At the end of each lab session, there will be one problem that will need to be solved based on the topic we will be covering that day.

**Homework Assignments:** Homework is assigned for every one or two units All assignments must be clearly written showing the reasoning step by step. Late homework submissions will be subtracted 25% if turned the next day. At the second day of delay or later, assignments are **no longer accepted** and there are **no make-up opportunities** given.

**Presentations:** Presentations will be provided every week or every two weeks. This is a short 10 minute presentation on a topic assigned. You will need to give your classmates the PPT file and also a short 1 page summary of your presentation for them to study. Thus 70% of your grade depend on the presentation and 30% on the summary report. There will be questions on the exam about the presentations. Thus, it is important that the information is given to your colleagues.

Description	Quantity	Unit Value	Total
Review Quiz	10	5	50
Lab question quiz	10	5	50
Homework	7	20	140
Midterms	3	100	300
Presentations	7	20	140
Final presentations	1	100	100
Mini-project*	1	20	20
Final exam	1	200	200
<b>TOTAL</b>			<b>1000</b>

**Mid-terms:** There will be three regular exams ('Mid-term exams') offered during the semester. Each exam is worth 100 points. The exams will consist of different multiple-choice, essay and math-solving questions. **In order to gain full credit, it is necessary to show all steps even if it is multiple-choice question (the choices are simply provided to guide you to the correct answer).** Selecting the correct answer without explanation does not earn points. The exams may be based on material covered in class or material from the book.

For each exam, you are allowed to bring a cheat-sheet that you must certify before starting the exam. The exams are rigorous in nature and substantial preparation will be expected and required. Likewise, the results of the exam will be provided the Wednesday after the exam is taken.

**Mini-project:** In this task you need to create and solve one math economic problem using any of the topics learned in this class. In order to create the question, you need to be imaginative: use a TV show, anime, soap opera, history, news or any other material. Originality in the problem is evaluated as part of the bonus points for this class. The basis is 20 points, but you can earn up to 10 bonus points if you do a good job in this project. The deadline of the mini-project is the day before reading days (for Spring2019 is **April 24<sup>th</sup>** at 5:00 pm)

**Final Presentation:** A final presentation will be given at the end of the class. This final presentation will be in front of guest professors. It is currently scheduled for **April 24<sup>th</sup> [at 12:00 pm]**. It is expected the presentation to last between 12 to 16 minutes. It accounts for 10% of your final grade, and it will be evaluated by the guest judges and your classmates. It is expected to provide a one-page summary for the judges and colleagues. Every final presentation has one question in the final exam.

**Final Exam:** A **comprehensive mandatory Final Exam** is given during the final exam week on **May 1<sup>st</sup> [at 10:00 am] (!)**. Be prepared for the final exam to last three hours. All students are required to take the Final Exam and it will count as 20% points of your final course grade. Early or late exams are not given. Please plan accordingly.

**Make-Up Exams:** Make-up exams **are not given**. This policy applies for missing a mid-term, except for extreme circumstances, there are several days as option that you can take the exam. Should you miss the Final Exam for any reason, you will need to talk to Dr. Luis Peña-Lévano to evaluate the situation.

### **Extenuating Circumstances**

Exception Exceptions to the Missed Assignment Policy reflect excused University events that fall under the 12-day rule or are of a very serious nature. These exceptions are referred to as "Extenuating circumstances" and require formal, letter-head documentation from a physician, hospital, UF faculty/academic advisor, or an email from the UF Dean of Students Office sent to the instructor's UF email address, within 24 hours of assignment deadline. A health-clinic note on the day an assignment is due does not warrant extenuating circumstances and the "Missed Assignment" Policy (above) will apply.

### **Student Responsibility for Online Submissions**

Students are responsible for ensuring and verifying that all of their assignment files are uploaded successfully in to Canvas. The instructor cannot be responsible for internet connections or failures. Students are strongly advised against using wireless connections to complete quizzes or upload assignments. Wireless connections have been problematic in previous semesters with students losing all points due to upload failure. A hard -wired connection can be located at any UF computer lab on campus or any public library to submit graded assignments. **TO REPEAT**, wireless connections are problematic, and quizzes or assignment uploads may not be saved (without any warning) and therefore locating a hard-wired connection is recommended to submit any graded assignments.

**Exam day policy:** Please arrive with your ID five minutes early, if possible, to get seated and get your books/bags stowed away so that the exam can be started on the stated time. If you need to use the bathroom, please do so before the exam begins. Students are not allowed to leave the Proctor=U lab during exams and re-enter the classroom. This policy also applies to the Final Exam.

**Online course evaluation:** Student assessment of instruction is an important part of efforts to improve teaching and learning. As a motivation, there will be **10 extra bonus points if the task is completed**. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>

## **Other Important Information**

Students are responsible for all deadlines/critical dates and policies set forth by the University of Florida. Deadlines/critical dates are published on the University of Florida Office of the University Registrar's web-site, <http://www.registrar.ufl.edu/>. Current academic policies are presented in the University of Florida Undergraduate Catalog, <https://catalog.ufl.edu/ugrad/current/Pages/home.aspx>. Please familiarize yourself with this information.

**Students Requesting Classroom Accommodation:** The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services, and mediating faculty-student disability related issues. Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodations. Students with disabilities should follow this procedure as early as possible in the semester. This must be done at least 10 days prior to any accommodation is needed.

**UF Counseling Services:** The life of a college student can sometimes be overwhelming. Resources are available on-campus to help students manage personal issues or gain insight into career and academic goals. Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's various counseling resources. The following resources are available for all UF students:

- For general student affairs: Dean of Students Office, 392-1261 (after hours, please call 392-1111);
- For mental health consultations: Counseling & Wellness Center, 392-1575 (24/7 phone access);
- For students experiencing distress: U Matter, We Care, 294-2273, [www.umatter.ufl.edu](http://www.umatter.ufl.edu);
- For physical health consultations: Student Health Care Center, 392-1161;
- For victims of sexual assault: Office of Victim Services, 392-5648 (after hours, please call 392-1111);
- For career guidance: Career Resource Center, 392-1602, [www.crc.ufl.edu](http://www.crc.ufl.edu).

**Software Use:** All faculty, staff, and students of the University of Florida are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

**Academic Honesty:** In 1995 the UF student body enacted an honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students. In their words, **the Honor Code Preamble:** In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code.

***The Honor Pledge: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.***

On all work submitted for credit by students at the university, the following pledge is either required or implied: **"On my honor, I have neither given nor received unauthorized aid in doing this assignment."** The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior.

**Student Responsibility:** Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court.

**Faculty Responsibility:** Faculty members have a duty to promote honest behavior and to avoid practices and environments that foster cheating in their classes. Teachers should encourage students to bring negative conditions or incidents of dishonesty to their attention. In their own work, teachers should practice the same high standards they expect from their students.

**Administration Responsibility:** As highly visible members of our academic community, administrators should be ever vigilant to promote academic honesty and conduct their lives in an ethically exemplary manner. This policy will be vigorously upheld at all times in this course.

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Any instances of academic dishonesty will be reported to Student Judicial Affairs.

**Student complaints:** The University of Florida believes strongly in the ability of students to express concerns regarding their experiences at the University. The University encourages its students who wish to file a written complaint to submit that complaint directly to the department that manages that policy.

- For a residential course, please read the following link:  
[https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf)
- For an online course, please follow this link:  
<http://www.distance.ufl.edu/student-complaint-process>

**By enrolling in this course, you are agreeing to the terms outlined in this syllabus.**

**I wish everyone a rewarding and productive semester 😊**