

SYLLABUS- Environmental Economics

Course: Econ 4360.060-Fall 2021 (online- synchronous)

Course duration: August 23, 2020 – December 3, 2020

Room: Virtual (Zoom); Meeting Time: synchronous: 2:00pm-3:20am

Note: All times are Central Standard Time (CST)

Instructor: Luis Gautier

Course Objective and Description

Concepts, tools of analysis, criteria and policy formulation related to areas of resource conservation and pollution abatement. This course applies the tools of economic analysis to environmental and natural resource issues such as global pollution, the relationship between economic growth and the environment, resource scarcity and air pollution. We shall look at the policy recommendations offered by the tools of economic analysis. This is an applied economic theory course and students are expected to feel comfortable with introductory theory-level microeconomics. I shall use formal algebraic representations of models and graphs to present and develop the main concepts and ideas.

Note on Course Dynamics

This is an entirely online class which follows a synchronous format. This means we'll meet via Zoom at scheduled times throughout the semester and students are expected to attend class. The Discussions link on Canvas is an additional forum through which students may exchange questions/ideas.

Important Deadlines

The University calendar is available here: <http://www.utt Tyler.edu/calendar/> . It is important that each student keeps track of drop dates and other important dates given in the University calendar. It is the student's responsibility to keep track of all important dates (including withdrawal dates). Students who do not withdraw by the required date (as stated by the University) will end up with a final grade based on their course work during the semester. Other important deadlines are provided in the course syllabus and course schedule.

Grading Components – weights

- (1) In-class group/individual activities: 20%
- (2) Research Presentation: 35%
- (3) Final Research Paper: 35%
- (4) Participation/Attendance: 10%

Letter Grade Curve- A: 100% - 90% ; B: 89 -80; C: 79 - 70; D: 69-60; F: 59 – 0.

Expectations

Students are expected to attend class and complete all assessments on time. Students are expected to meet all deadlines and work as independently as possible. Students are expected to keep track of all deadlines, and University Calendar for course drop out dates and other important dates. There is no "make-up" or "extra credit" in this class.

Note on Technical Issues

It is important to note that having issues with, but not limited to, the internet connection, software and hardware performance do not excuse students from not attending class and completing the online assessments.

Plagiarism/Cheating

This course will follow the policies and procedures stated in the University of Texas at Tyler Manual of Policies and Procedures for Student Affairs, chapter 8 available here <http://www.uttyler.edu/mopp/documents/8Student%20Conduct%20and%20Discipline.pdf>

Copyright

All the course material available on Canvas is copyrighted.

Communication

You can reach me via email at lgautier@uttyler.edu

Please give me between 24 and 48 hours to respond to your email during the week, and during weekends it may take more than 48 hours to respond.

Please feel free to email me to schedule an appointment (office hours). Office hours will take place via Zoom. For more information on Zoom for UT-Tyler students please visit uttyler.zoom.us. The link "Zoom" on your Canvas course page has more information.

Learning Objectives

1. Apply the main analytical tools in the field of economics to make policy recommendations.
2. Compare/contrast environmental policies (e.g., carbon pricing, command-and-control, etc.).
3. Identify and analyze the main environmental issues facing developing and developed countries.
4. Analyze the role of technology in pollution abatement.
5. Analyze the recent experience of countries which have implemented market-based environmental policies.

IMPORTANT

1. Students are expected to attend class, participate, meet all deadlines and work independently.
2. There is no make-up work (i.e., extra credit) in this course.
3. It is the student's responsibility to keep track of important dates such as course drop dates. If a student fails to drop the class within the established time frame by UT-Tyler, then the student's final grade will be based on the class work she/he has completed.
4. Please make sure to have appropriate internet connection, hardware and software requirements, etc. Students will not be granted extensions if any problems associated with internet connection, hardware and software requirements arise. Please do not leave any assessments for the last minute to complete.
5. All times are Central Standard Time (CST).

Final Paper and Presentation

The main purpose of this project is to allow you to analyze a country's environmental challenges and provide policy recommendations. You are expected to present the results from your analysis and submit a final paper. Specifically, you are expected to choose a country and analyze its environmental challenges using one or several of the models/tools discussed in class. You are expected to collect relevant data to conduct your analysis. The same country cannot be presented twice so country/topic selection is on a first-come-first-serve basis.

Final paper: You are expected to submit a final paper describing a country's environmental challenges and provide policy recommendations, your results, figures and tables, and all sources used in the analysis. Please upload your final paper on Canvas.

Your paper should consist of the following sections:

Section 1 –ABSTRACT: In 100 to 150 words state the country you're analyzing, why you chose your country and summarize your main findings.

Section 2- THE ECONOMY (1-2pages): describe the country's economy and growth experience over time; analyze the underlying factors which explain this experience. Make sure to present key economic indicators in your analysis.

Section 3- ENVIRONMENTAL CHALLENGES (4-5 pages): describe the country's environmental challenges and present key indicators.

Section 4 – POLICY RECOMMENDATIONS (5 pages): put forward policy recommendations to address the challenges identified in section 3.

Section 5 – REFERENCES.

Grading (paper):

1. **The final paper is worth 100 points. Please upload your paper on Canvas.**
 - a. Evaluation and grading of the report will be based on:
 - i. Your ability to include relevant data, conduct all relevant analysis necessary to develop policy recommendations in the context of the development challenges. (weight: 50%)
 - ii. Your ability to present your results in a clear, organized and concise fashion. (weight: 50%)

Presentation: The presentation will be based on the analysis you undertake on your final paper. In your presentation you are expected to share a detailed account of the reasons for choosing the country you are analyzing, relevant data used, the country's environmental challenges and policy recommendations. Time limit for each presentation: TBD. Please upload your slides on Canvas.

Grading (paper and presentation):

2. **The presentation is worth 100 points. Please upload your slides on Canvas.**
 - a. Evaluation and grading of the presentations will be based on
 - i. Your ability to include relevant data, clearly present all relevant analysis necessary to develop policy recommendations in the context of the development challenges. (weight: 50%)
 - ii. Your ability to present your results in a clear, organized and concise fashion using relevant presentation aids such as power point slides. (weight: 50%)

PROPOSED COURSE SCHEDULE

Week 1: 8/23 – 8/27 THROUGH **Week 2:** 8/30-9/3

Module 1 – Environmental Challenges & Data

Challenges and Data. Reading: (i) Field and Field chapter 1 (on Canvas); (ii) Tirole, chapter 8 (on Canvas); (iii) Class notes/slides, Video “Heat” (on Canvas).

Activity 1 – Data collection and initial inspection of data. What does the New IPCC report say?

Reminder: Census Date-September 3.

Week 3: 9/6- 9/10 THROUGH **Week 4:** 9/13 - 9/17

Module 2 - History of Environmental Economics. Reading: (i) Sandmo 2015, pp.43-56 (on Canvas). Discussion and Q&A session.

Module 3 – Externalities and Efficiency. Reading: (i) Tirole Chapter 13; (ii) Field & Field chapter 3 and chapter 4 (on Canvas); (iii) Pearson chapter 4 (on Canvas); (iii) Slides/class notes (on Canvas).

Research Paper: One-on-One Meeting-1 via Zoom (date 9/16)- Country, Data you expect to collect and sources, and research questions you’ll attempt to answer.

Week 5: 9/20-9/24 THROUGH **Week 7:** 10/4 – 10/8

Module 3- Emission Taxes & Environmental Standards

Emission Taxes in Practice. Reading: (i) Pearson chapter 6 (on Canvas); (ii) Class notes/slides.

Designing a Carbon tax to Reduce US GHG Emissions. Reading: Metcalf 2019 (on Canvas). Discussion and Q&A.

Cooperation between EG and Polluting Firm. Reading: (i) Class notes/slides.

M&A and Emission Taxes. Reading: (i) Class notes/slides.

Standards. Reading: (i) Field and Field chapter 11; Pearson chapter 7, section 7.1 (on Canvas); (iii) Slides/class notes.

Activity 2 – Country experience/efforts with carbon pricing policies.

Research Paper: One-on-One Meeting-2 via Zoom (date 10/7) – Share analysis and preliminary results. Bring tables and charts as appropriate.

Week 8: 10/11-10/15 THROUGH **Week 9:** 10/18-10/22

Module 4- Growth and the Environment

Application of the PPF model. Reading: (i) Slides/class notes.

Environmental Kuznets Curve: Theory Evidence. Reading (i) Carson 2010; (ii) Slides/class notes.

Activity 3 – Is there evidence for the EKC?

Week 10: 10/25 – 10/29 THROUGH **Week 11:** 11/1 – 11/5

Module 5- Regulation and Innovation – the Porter hypothesis. Reading: Ambec et al (2013). Discussion and Q&A session.

Activity 4 – Find data/examples to support or refute the Porter hypothesis.

Presentation: One-on-One Meeting-3 via Zoom (date 11/4) –Bring slides you'll use on your presentation.

Week 12: 11/8 – 11/12 THROUGH **Week 13:** 11/15 – 11/19

Scheduled Research Presentations. Order TBD. Please upload your slides on Canvas on the Assignments page "Presentations".

Week 14: 11/22 – 11/26 (Thanksgiving) THROUGH **Week 15:** 11/29 – 12/3

Final Paper due 12/1, 11:59pm. Please upload your final paper on Canvas on the Assignments page "Final Paper".

The professor reserves the right to change the outline and any other aspect of this syllabus throughout the semester.

Reading List

1. Ambec, S., Cohen, M.A., Elgie, S., and P. Lanoie (2013) "The Porter Hypothesis at 20: Can Environmental Regulation Enhance Innovation and Competitiveness?" *Review of Environmental Economics and Policy* 7(1): 2-22.
2. Case, K.E., Fair, R.C., and S.E. Oster *Principles of Macroeconomics* 11th edition. Pearson
3. Carson, R.T. (2010) "The environmental Kuznets Curve: Seeking empirical regularity and theoretical structure" *Review of Environmental Economics and Policy* 4(1): 3-23.
4. Field, B.C., and M.K. Field *Environmental Economics: An Introduction* 5th edition.
5. Frank, R.H. , Benanke, B.S., Antonovic, K.L. and O. Heffetz *Principles of Macroeconomics* 8th edition. McGrawHill
6. Fikru, M. and L. Gautier (2015) "The impact of weather variation on energy consumption in residential houses" *Applied Energy* 144: 19-30.
7. Heal,G. (2010) "Reflections – The economics of renewable energy in the United States" *Review of Environmental Economics and Policy* 4(1): 139-154.
8. Metcalf, G.E. (2009) "Designing a carbon tax to reduce U.S. greenhouse gas emissions" *Review of Environmental Economics and Policy* 3(1): 63-83.
9. Keohane, N.O. (2009) "Cap and trade, rehabilitated: Using tradable permits to control U.S. greenhouse gases" *Review of Environmental Economics and Policy* 3(1): 42-62.
10. Pearce, D.W. and R.K. Turner (1990) *Economics of natural resources and the environment*. Harvester Wheatheaf.
11. Portney, P.R., (2000) "Environmental Problems and Policy: 2000–2050" *Review of Environmental Economics and Policy* 14(1): 199- 206.
12. Sadmon, A. (2015) "The Early History of Environmental Economics" *Review of Environmental Economics and Policy* 9(1): 43-63.
13. Telsey, A.I. (2016) *The ABCs of environmental regulation* 3rd ed. Bernan Press.
14. Tietenberg, T.H. (2013) "Reflections—Carbon Pricing in Practice" *Review of Environmental Economics and Policy* 7(2): 313-329.
15. Tietenberg, T.H. and L. Lewis (2012) *Environmental Economics and Natural Resources*, 9th ed.
16. Tirole, J. (2017) *Economics for the Common Good*. Princeton University Press
17. Sandmo (2015) "The early history of environmental economics" *Review of Environmental Economics and Policy* 9(1): 43-63

Note: You may request many of these readings via the Interlibrary Loan service at the UT-Tyler library: <https://illiad.uttyler.edu/> .

UNIVERSITY POLICIES AND ADDITIONAL INFORMATION THAT MUST APPEAR IN EACH COURSE SYLLABUS

UT Tyler Honor Code

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Students Rights and Responsibilities

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: <http://www.uttyler.edu/wellness/rightsresponsibilities.php>

Campus Carry

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>

UT Tyler a Tobacco-Free University

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors. Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products. There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

Grade Replacement/Forgiveness and Census Date Policies

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date is the deadline for many forms and enrollment actions of which students need to be aware. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a “W” grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Disability/Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Texas at Tyler offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director of Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079.

Student Absence due to Religious Observance

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an

identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

Student Standards of Academic Conduct

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

i. "Cheating" includes, but is not limited to:

- copying from another student's test paper;
- using, during a test, materials not authorized by the person giving the test;
- failure to comply with instructions given by the person administering the test;
- possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed "crib notes". The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
- using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
- collaborating with or seeking aid from another student during a test or other assignment without authority;
- discussing the contents of an examination with another student who will take the examination;
- divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
- substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
- paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program;
- falsifying research data, laboratory reports, and/or other academic work offered for credit;
- taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
- misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.

ii. "Plagiarism" includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another's work and the submission of it as one's own academic work offered for credit.

- iii. "Collusion" includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.
- iv. All written work that is submitted will be subject to review by plagiarism software.

UT Tyler Resources for Students

- UT Tyler Writing Center (903.565.5995), writingcenter@uttyler.edu
- UT Tyler Tutoring Center (903.565.5964), tutoring@uttyler.edu
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- UT Tyler Counseling Center (903.566.7254)

Important Covid-19 Information for Classrooms and Laboratories

Students are required to wear face masks covering their nose and mouth, and follow social distancing guidelines, at all times in public settings (including classrooms and laboratories), as specified by [Procedures for Fall 2020 Return to Normal Operations](#). The UT Tyler community of Patriots views adoption of these practices consistent with its [Honor Code](#) and a sign of good citizenship and respectful care of fellow classmates, faculty, and staff.

Students who are feeling ill or experiencing symptoms such as sneezing, coughing, or a higher than normal temperature will be excused from class and should stay at home and may join the class remotely. Students who have difficulty adhering to the Covid-19 safety policies for health reasons are also encouraged to join the class remotely. Students needing additional accommodations may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email saroffice@uttyler.edu.

Recording of Class Sessions

Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.