

# Environmental Economics and Resource Policy

Fall 2021

Section 1092 meets Tuesdays and Thursdays 7:25am-9:20am in MAT 107\*

*\* Both exams are in person at the main UF campus for all students. Students can access lectures in one of two ways: (1) In-person during our scheduled time/room or (2) In pre-recorded videos available on Canvas asynchronously. Each student can decide which option works best for them (and change it at any point) as long as they attend both in-person exams (no changes in registration are needed). The 2 options will have the same content. Homework, discussion boards, and quizzes are all submitted via Canvas<sup>1</sup>.*

## INSTRUCTOR

Michelle A. Phillips, Ph.D. ([michellephillips@ufl.edu](mailto:michellephillips@ufl.edu))  
MAT 334. (352) 392-5017

## TA

Sankalp Mathur ([sankalpmathur@ufl.edu](mailto:sankalpmathur@ufl.edu))

## OFFICE HOURS

Tuesdays noon-1pm via Zoom with Phillips (see Canvas for link)

Wednesdays 3:30-4:30pm in MAT 301A with Mathur

Thursdays noon-1pm via Zoom with Phillips (see Canvas for link)

Or by appointment.

Extra office hours during exam week:

See course schedule

## COURSE OBJECTIVE

To learn about economic issues related to the environment and policies that can be used to address these. Topics covered in this course include (but are not limited to) the following: Externalities, Open Access Resources, Cost Benefit Analysis, Revealed Preferences, Stated Preferences, Social Choice, Economic Growth and the Environment, NPV, Environmental Policy (including Standards, Fees, and Marketable permits), Law and the Environment.

## REQUIRED TEXTBOOK

All the reading material required for this class is posted on Canvas.

## LECTURE POLICY

Lectures can be attended in person or online. You don't have to notify me of your chosen lecture method and you can change it whenever you feel like it. If you choose to watch the pre-recorded lectures, you can email me any lecture questions you have and you can work up to one week ahead, *if you wish to do so*. The course uses Modules with dates in parenthesis.

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<sup>1</sup> Note: Letters of recommendation are based on performance on exams, discussion boards, homework, and quizzes. The method of lecture delivery you choose will not affect my ability to write you a letter of recommendation.

## EVALUATION OF GRADES

Your grade will be determined by your performance on the following:

Graded Event	Weight
Exam 1 (in person)	30%
Exam 2 (in person)	30%
Weekly Quizzes (on Canvas)	15%
Homework (on Canvas)	20%
Discussions (on Canvas)	5%

## EXAM POLICY

We will have 2 exams which will be taken in person at the University of Florida's main campus. The only exceptions for this are (1) students who have an excused absence and (2) students who take the exam at the DRC.

You must always show your work in exams to get full credit. You will not get full credit for a question if it just has the answer and no mathematical work or explanation of how you arrived at your answer. The only exception to this is multiple choice questions or questions that say "no need to explain" explicitly. This is true for all exams and homework.

*Important: Using notes of any type, the internet (including quizlet and Chegg) or communicating with students or tutors during an exam is an honor code violation. If you do this, you will get a grade of 0 on the course. I check Reddit, Chegg, etc during exams and if I see people posting questions I consider it cheating. Remember anyone can post an answer, including me. Academic Honesty is something I take really seriously because it is unfair for students who do not cheat.*

## HOMEWORK POLICY

Homework will be given throughout the term. You can submit homework 1 day late, but with a 50% penalty. Homework won't be accepted more than one day late. I highly recommend that you form study groups and work on homework with a classmate or two. Each person's submission should be their own. It is not fine for two people to submit the same file.

## QUIZ POLICY

Quizzes are due every week and are based on the lectures and reading material. You can take each quiz twice, and keep the highest score. Note: Quiz questions will vary from quiz to quiz (you won't get the same questions the second time you take the quiz). Important: I highly recommend that you take class notes, you can use these notes to answer the quizzes. Quizzes are open notebook/book/notes. You can use your notebook and reading materials to answer quiz questions. Quizzes are untimed. I will not reset quizzes unless there's an outage of Canvas. I do not extend Quiz deadlines unless you were sick for the entire time the quiz was open. Quizzes do not use Honorlock or Proctor U, but you should work on them individually.

## ABSENCE POLICY FOR GRADED COMPONENTS OF THE COURSE

For an exam absence that is known ahead of time (i.e., religious holidays, pre-scheduled surgery), you must notify me at least one week in advance if possible (less time is allowed for sickness or other emergencies). For emergencies, you must notify me as soon as you can (and at

most 1 week after the original exam date). If you miss an exam you can take a make-up that will be similar in difficulty, but different from the original exam (the format could be different, the questions will be different). Documentation is required for excused absences. Any issues for which documentation cannot be obtained should be directed to the Dean of Students Office. Please note that there is no attendance policy for lectures since they can be attended in person or virtually. **It is not necessary to e-mail me to let me know why you missed a lecture since you can watch the lectures you miss online. It is necessary to e-mail me when you miss a graded component of the course.**

Since quizzes are open for an entire week, if you miss a quiz, you would need a note for the entire time the quiz was open. The same is true for assignments and discussion boards.

### CANVAS ISSUES

Please e-mail me (or send me a Canvas message) if you see something on our Canvas website that seems confusing or if you find dead links.

### INTERNET CONNECTIVITY ISSUES AND HOMEWORK UPLOAD ISSUES

I only offer make-up assignments or quizzes when there are known system-wide outages. These are the only outages that I can verify. I cannot verify individual connectivity problems, and thus, cannot accommodate them. This is why I drop quizzes and provide ample time for assignments to be submitted.

You are responsible for verifying that any online assignment submission has properly been submitted through Canvas. As a best practice, after submitting any assignment, close your browser, reopen Canvas, and check that your assignment properly appears. Canvas should give you the option to download your assignment after you submit it. Do that and make sure you uploaded the correct file. Uploading an incorrect file is a preventable mistake, so grading exceptions are not made for mistakes in files uploaded to Canvas. As an additional best practice, never submit an assignment through the Canvas mobile app.

You must have a strong and reliable internet connection to take online quizzes. Some best practices are:

1. Use a hardwired ethernet connection if possible.
2. If you must use WiFi, you should ensure that you have a strong and stable internet connection.
3. If you must use WiFi, ask others to refrain from using the internet during your quiz if possible.
4. Public WiFi and Hotspots are not suitable for taking online quizzes.

### CLASS DEMEANOR

Opinions held by other students should be respected in discussion, and conversations that do not contribute to the discussion should be held at minimum, if at all. Please be professional on e-mails and communications with me and your classmates.

### WEEKLY SCHEDULE

Notes:

1. Dates may be slightly adjusted based on unforeseen circumstances (ex: hurricane).
2. Reading material for each week is posted on each module on Canvas

Module	Date	Item
1	Tu Aug 24	Syllabus (in person or online) Optional: Calculus review (online)
	Th Aug 26	Environmental law (in person or online)  <u>Assessments on Canvas:</u> <ul style="list-style-type: none"> <li>• Discussion: Intro (<b>due Aug 27</b>)</li> <li>• Quiz M1 (<b>due Aug 27</b>)</li> </ul>
2	Tu Aug 31	Watch Fire on Ice documentary (in person or online). Note: Instructions on how to access the documentary are posted on Canvas under Module 2. You can watch it at home and take the quiz as you watch it or come to class, take notes, and take the quiz at home.
	Th Sept 2	Revealed preferences (in person or online) <u>Assessments on Canvas:</u> <ul style="list-style-type: none"> <li>• Quiz Ice on Fire (<b>due Sept 3</b>)</li> <li>• Discussion: valuation or water war (<b>due Sept 3</b>)</li> <li>• Optional: Practice for upcoming homework (not graded)</li> </ul>
3	Tu Sept 7	Revealed preferences and stated preferences (in person or online)
	Th Sept 9	Work on homework 1 instead of lecture.  Instead of having a lecture, I will be available for extra office hours on Zoom during class time to answer questions while you work on Homework 1. How to work on Homework 1: 1. Solve Practice Problem Sets linked on Canvas (under Module 3). It is very important that you attempt these exercises on your own (or with a classmate) before looking at the answer key and the video of me solving it. If you try to solve the exercise, look at the answer key, and look at the video of me solving it and are still confused, it is very important that you log into Zoom office hours so I can work with you one-on-one to help you understand the problem. For exams, you will have to figure out how to do problems that can't be solved by rote repetition and this is the best way to practice for that. I will be available on Zoom for the duration of our class and you can stop by to ask questions. You are also welcome to form groups with your classmates and meet somewhere to work the exercises out. 2. Solve homework 1 and submit it to Canvas by the due date.  <u>Assessments on Canvas:</u> <ul style="list-style-type: none"> <li>• Work on practice problem sets and Homework 1 (during Thursday's class)</li> <li>• Get started on Homework: Demand (<b>due Sept 17</b>)</li> <li>• Quiz M2 and M3 (<b>due Sept 10</b>)</li> <li>• Quiz M3 (<b>due Sept 10</b>)</li> </ul>
4	Tu Sept 14	Social choice (in person or online)

	Th Sept 16	Social choice (in person or online)  <u>Assessments on Canvas:</u> <ul style="list-style-type: none"> <li>• Homework: Demand (<b>due Sept 17</b>)</li> <li>• Quiz M4 (<b>due Sept 17</b>)</li> <li>• Quiz Group poll (<b>due Sept 17</b>)</li> </ul>
5	Tu Sept 21	Externalities and types of goods (in person or online)
	Th Sept 23	Work on homework 2 instead of lecture.  I will be available for the entire class duration on Zoom if you need one-on-one assistance solving the exercises linked on Canvas. My recommendation is to <ol style="list-style-type: none"> <li>1. Try and solve the Practice Problems on your own, then look at the video of me solving it or answer key. If you don't understand after trying on your own and watching the video of me solving it: Log into my office hours which will take place during class.</li> <li>2. Work on Homework 2 and submit it by the deadline.</li> </ol> <u>Assessments on Canvas:</u> <ul style="list-style-type: none"> <li>• Work on Practice Problem sets and Homework 2 on Thursday's class</li> <li>• Get started on Homework: Externalities (<b>due on Oct 1</b>)</li> <li>• Quiz M5 (<b>due Sept 24</b>)</li> </ul>
6	Tu Sept 28	Special topics: Case studies of pollution (in person or online)
	Th Sept 30	Work on Climate change negotiation group activity instead of lecture  You will be assigned a group (you can choose whether you want an in-person or Zoom group) and will engage in climate change negotiations through a simulator (if you meet in person you are welcome to use our classroom but will need to bring laptops). I will send an email listing your assigned group members. Instructions are available on Canvas, under Module 6. Note that each group member will upload their own file because the negotiation overall is done as a group but the specific questions are answered individually by each student. You will not be able to complete this activity if you don't show up to your group meeting.  <u>Assessments on Canvas:</u> <ul style="list-style-type: none"> <li>• Homework: Externalities (<b>due Oct 1</b>)</li> <li>• Group work: Climate change negotiation (<b>due Oct 1</b>)</li> </ul>
7	Tu Oct 5	Special topics: Transportation (in person or online)
	Th Oct 7	Optional: Exam 1 Review (in person or online)
	Tu Oct 12	Extra Zoom office hours instead of lecture to prepare for exam 1. Please stop by and ask questions you have about the exam.

	Th Oct 14	<b>Exam 1 (in person on Oct 14)</b>
8	Tu Oct 19	Correcting market failures (in person or online)
	Th Oct 21	Public goods (in person or online)  <u>Assessments on Canvas</u> <ul style="list-style-type: none"> <li>• Homework: Public goods (<b>due Oct 22</b>)</li> </ul>
9	Tu Oct 26	Coase theorem and Govt policy (in person or online)
	Th Oct 28	Govt policy and Tradable permits (in person or online)  <u>Assessments on Canvas</u> <ul style="list-style-type: none"> <li>• Discussion M9 (<b>due Oct 29</b>)</li> </ul>
10	Tu Nov 2	Econ growth, enforcement and political economy (in person or online)
	Th Nov 4	Voluntary actions (in person or online)
	Tu Nov 9	Optional: Moral hazard (in person or online). Note: This lecture is optional but recommended for students interested in graduate school. It is not part of Exam 2 nor the weekly quiz.  <u>Assessments on Canvas</u> <ul style="list-style-type: none"> <li>• Quiz M10 (due Nov 12)</li> <li>• Start studying for exam 2</li> </ul>
	Th Nov 11	No class (Holiday)
11	Tu Nov 16	Extra Zoom office hours instead of lecture to prepare for exam 2. Please stop by and ask questions you have about the exam.
	Th Nov 18	<b>Exam 2 (in person on Nov 18)</b>
12	Tu Nov 23	Virtual class case study activity. Please go to the module and follow the instructions. Note that this activity is due on Nov 23.  <u>Assessments on Canvas</u> <ul style="list-style-type: none"> <li>• Quiz M12 (<b>due Nov 23</b>)</li> </ul>
	Th Nov 25	No lecture (Holiday)
13	Tu Nov 30	Net present value (in person or online)
	Th Dec 2	Work on NPV homework instead of lecture.  I will be available for the entire class duration on Zoom if you need one-on-one assistance solving the exercises linked on Canvas. My recommendation is to 1. Try and solve the Practice Problems on your own, then look at the video of me solving it or answer key. If you don't understand after trying on your own and watching the video of me solving it: Log into my office hours which will take place during class. 2. Work on Homework: NPV and submit it by the deadline.  Assessments on Canvas <ul style="list-style-type: none"> <li>• Extra Credit (optional) (<b>due Dec 3</b>)</li> <li>• Assignment: NPV (<b>due Dec 8</b>)</li> </ul>

14	Tu Dec 7	Case Study: Alberta energy (in person or online)  Assessments on Canvas: <ul style="list-style-type: none"> <li>• Assignment: NPV (<b>due Dec 8</b>)</li> <li>• Quiz M14 (<b>due Dec 8</b>)</li> <li>• Teaching evaluation</li> </ul>
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### COURSE EVALUATION

Students are expected to provide feedback regarding this course by completing online evaluations at <https://ufl.bluera.com/ufl/>

### GRADING POLICY

The following scale will be used to determine your final grade:

Name:	Range:	
A	100 %	to 94.0%
A-	< 94.0 %	to 90.0%
B+	< 90.0 %	to 87.0%
B	< 87.0 %	to 84.0%
B-	< 84.0 %	to 80.0%
C+	< 80.0 %	to 77.0%
C	< 77.0 %	to 74.0%
C-	< 74.0 %	to 70.0%
D+	< 70.0 %	to 67.0%
D	< 67.0 %	to 64.0%
D-	< 64.0 %	to 61.0%
F	< 61.0 %	to 0.0%

### DISABILITY ACCOMMODATIONS

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester. Accommodations should be requested at least 2 days before an exam (earlier is better). I cannot provide accommodations for you if you let me know you need them halfway through an exam or the day of the exam (and I cannot postpone exams without a valid reason to miss an exam).

### UNIVERSITY HONESTY POLICY

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code

(<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor.

***Important: Using notes of any type, the internet (including quizlet) or communicating with students during an exam is a honor code violation. If you do this, you will get a grade of 0 on the course.***

### COUNSELING AND WELLNESS CENTER AND OTHER RESOURCES

If you are stressed out or experiencing difficulties, UF offers several services such as the Counseling and Wellness Center (<https://counseling.ufl.edu/>) and GatorWell (<https://gatorwell.ufsa.ufl.edu/>). Your mental health is very important and the earlier you seek help, the better. UF also has a food pantry (<https://pantry.fieldandfork.ufl.edu/>).

Contact information for the Counseling and Wellness Center:

<http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies. Alachua Crisis Center: 352-264-6785. National Suicide Prevention Hotline: 1-800-273-8255.

### COURSE WEBSITE

We will be using Canvas. The address is: <http://elearning.ufl.edu/>. You log-in using your Gatorlink ID and password and the course should automatically appear as one of your e-learning options. If it does not, check to make sure you are properly registered for the course. If that is not the issue, contact the UF Computing Helpdesk at: <http://helpdesk.ufl.edu/>. Do not contact me about access issues. I cannot help you and the help you do need will only be delayed if you do. All course materials and grades will be posted here.

### IMPORTANT:

1. You are expected to apply what you learn in class during exams. Exams will not be the same as the practice exercises. You will be expected to be able to apply the framework learned in class to other contexts.
2. Office hours are for asking questions about the material and are not a substitute for class.
3. I will typically answer emails within 1 business day from the day in which I receive them (during busy times it may be 2 business days). If you do not receive a response from me within 2 business days, please feel free to reach back out. I have probably overlooked your email or accidentally deleted it. Note: business days exclude weekends and holidays.
4. All Exams are closed book. The exams consist of short essay questions and problems. Partial credit will be given for partially correct answers in your exams, so make sure you answer every question. Cellular phones or programmable calculators may not be used during the exams as calculators or for any other reason. You must show your work and steps when answering all questions except for multiple choice questions.
5. I am always happy to answer questions you may have via email, but that does not mean you can send me test banks you found on the internet and expect me to provide answers for them or ask me to help you solve a question from a homework/quiz/study guide for a different course (with a different instructor).

6. Expectations: You are responsible for all the material covered in class, and all the reading material posted on Canvas.

Some lecture slides, notes or exercises used in this course may be the property of the textbook publisher or other third parties. All other course material, including but not limited to slides developed by the instructor, the syllabus, assignments, course notes, course recordings, and examinations or quizzes are property of the University or of the individual instructor who developed them. Students are free to use this material for study and learning. Republishing or redistributing this material, including uploading it to web sites or linking to it through services like iTunes, Reddit, Chegg, or CourseHero, violates the rights of the copyright holder and is prohibited. There are civil and criminal penalties for copyright violation.

### **Covid-19 protocols**

This is the protocol as of the writing of this syllabus (8/19/2021). I will email any updates as I receive them (the latest information sent by email is the information you should follow).

The CDC recommends masks for both vaccinated and unvaccinated people in indoor settings. I will have masks available if you do not have one.

FAQs as of 8/17/2021. Please check the website for newest information:

[https://coronavirus.ufhealth.org/screen-test-protect-2/frequently-asked-questions/#students\\_test\\_positive](https://coronavirus.ufhealth.org/screen-test-protect-2/frequently-asked-questions/#students_test_positive)

What if I test positive?

If you test positive, please start to isolate from others. Call UF Health Screen, Test & Protect disease investigators at 352-273-9790 to learn your next steps.

Will students need to isolate or quarantine if they are a close contact or test positive?

If you are not vaccinated and become a contact to a case or become ill with COVID-19-like symptoms, please answer the screening questionnaire through ONE.UF to schedule a test or call UF Health Screen, Test & Protect for further guidance at 352-273-9790.

Additionally, once fully vaccinated (14 days after the single dose of J&J and 14 days after the second dose of Moderna and Pfizer) you will not be considered a contact to a COVID-19 positive case and no longer need to quarantine if exposed.

How long do I have to quarantine for if I have come in close contact with someone who has COVID-19 and I'm unvaccinated?

The quarantine period is 14 days; however, if you have not developed any COVID-19-like symptoms after 10 days, you can end your quarantine period early if you agree to the following guidelines and action steps:

Get a PCR test through UF Health Screen, Test & Protect (STP) on or after the 9th day of exposure. If you are not a UF student, faculty, staff or affiliate or you are not in the Gainesville

area, you may use an outside lab and manually report your results to STP by calling 352-273-9790.

Report any newly developed symptoms to STP.

Stay masked for the full 14 days after exposure at all times when around others including roommates or those who live in your household.

For those unable to comply with these criteria, you must remain in quarantine for the full 14 days.

Will I need to quarantine after I'm fully vaccinated?

Please call UF Health Screen, Test & Protect for guidance or report your exposure on the ONE.UF health screener if you are fully vaccinated and were exposed to a COVID-19 case. You will not be considered a contact if you come in close contact to someone with COVID-19, but you should monitor yourself for COVID-19 symptoms. Maintain monitoring for 14 days following an exposure. Health professions students may be required to follow different protocols. If you are a health professions student at UF Health, please contact the appropriate phone number to answer questions about exposure.

### **Extended Absences:**

If you are out sick for a substantial period of time, and it is unlikely that you can reasonably get caught up in class, you can pursue a medical withdrawal by contacting the UF Care Team (<https://care.dso.ufl.edu/>). I generally recommend this route when a student misses 2+ weeks.

### **Recording of class:**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium,

to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

**If I make any changes to the syllabus, I will announce them via email and will list each change here: This is syllabus version 1.0.**