

**University of Colorado Boulder**

**Econ 4535 – Natural Resource Economics  
Fall 2023**

Professor: Daniel Kaffine  
Office: Economics 208C  
Phone: (303) 492-6652  
Email: [daniel.kaffine@colorado.edu](mailto:daniel.kaffine@colorado.edu)

**Lectures:** Monday, Wednesday, Friday 11:15-12:05 MEUN E431

**Office hours:** Monday and Wednesday 12:30-2:00

**Class Participation:** Students are expected to have read all materials prior to class and should be prepared to discuss and answer questions regarding the readings. Lecture and discussion will comprise a large component of our in-class time, and students are expected to attend class and contribute. In addition, there will be a low-stakes question at the end of each week (due the following Monday in class) that pertains to the chapter readings for that week.

**Unit Assignments:** At the end of each of the five units, a unit assignment will be due. This assignment should be worked on with another student with a single submission from the group (alternative arrangements can be discussed with me). The unit assignment consists of three components: First, students will produce a Unit Discussion, which is a 3-page discussion of the material covered in the readings and lectures. This is the primary check-up on the readings from the textbook. The document is expected to analyze the unit material covered and discuss open and unresolved questions or debates related to the unit. Second, each unit assignment will also include a calculus-based mathematical problem. Finally, there will also be a computational problem to be solved in Mathematica. I will provide more details when the first unit assignment is assigned.

**Computational Paper:** The mathematics required to answer many interesting questions related to natural resources are beyond the scope of the prerequisites for this course. Nonetheless, we will take advantage of the mathematical programming language Mathematica to tackle some of them. Simply follow the link here: <https://oit.colorado.edu/software-hardware/software-catalog/mathematica> to get free access to the software. We will cover a number of examples in class, and for the computational paper you will come up with your own question and answer it using Mathematica.

**Exams:** The exams will be short answer plus numerical problems. I will provide example questions from past exams as study aides prior to the test date. The Midterm Exam will be in class (roughly mid-October) and cover material from Units I-III. The Final Exam is comprehensive, but weighted towards Unit IV-V, and is scheduled for Sunday December 17<sup>th</sup> 1:30-4:00pm.

### **Tentative Schedule**

The five units for the class are listed below. We will spend the first few lectures covering some overarching introductory ideas before diving into Unit I. I expect to spend approximately 2-3 weeks on each unit, depending on the volume of the material and general class interest in the unit. For each unit, tentative topics are also listed.

Unit I. Extraction of non-renewable resources  
    Mineral products  
    Oil and gas  
    Groundwater

Unit II. Extraction of renewable resources

Fisheries  
Forestry  
Agriculture

Unit III. Property rights and institutions

Open access  
Common property  
The Resource Curse and economic growth

who require accommodation because a disability prevents them from fulfilling safety measures related to infectious disease will be asked to follow the steps in the

For those who feel ill and think you might have COVID-19 or if you have tested positive for COVID-19, please stay home and follow the [further guidance of the Public Health Office](#). For those who have been in close contact with someone who has COVID-19 but

CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. University policy prohibits [protected-class](#) discrimination and harassment, sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, and related retaliation by or against members of our community on- and off-campus. These behaviors harm individuals and our community. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals who believe they have been subjected to misconduct can contact OIEC at 303-492-2127 or email [cureport@colorado.edu](mailto:cureport@colorado.edu). Information about university policies, [reporting options](#), and support resources can be found on the [OIEC website](#).

Please know that faculty and graduate instructors have a responsibility to inform OIEC when they are made aware of incidents related to these policies regardless of when or where something occurred. This is to ensure that individuals impacted receive an outreach from OIEC about their options for addressing a concern and the support