

# **FORS 320 Forest and Environmental Economics**

## **Course Syllabus**

### **Instructor**

Instructor: Dr. Jeremy Sage  
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Office hours: Tuesday & Thursday 2:00-3:00 pm

### **Course description**

This course will enable students to identify, critique, and apply the appropriate economic techniques to support decision making about the allocation of scarce resources, as well as the management of forests for timber and other use and nonuse resources. The course is designed with the perspectives and needs of future managers in mind. As such, emphasis will be placed on managerial decisions and the economics that can be used to support and strengthen them.

### **Learning Outcomes**

1. Understand the appropriate economic analyses to be conducted under a variety of resource allocation decision conditions;
2. Understand when and why markets may fail to efficiently allocate forest resources in a variety of contexts;
3. Ability to recommend economic policies to correct market failures;
4. Be familiar with various non-market valuation techniques and know how to interpret non-market valuation literature; and
5. Utilize economic tools to estimate economically optimal forest rotations.

### **Required textbooks:**

Field, B.C. (2016). *Natural Resource Economics: An Introduction, 3<sup>rd</sup> Ed.* Waveland Press, Inc. ISBN: 1-4786-2780-8

### **Recommended textbooks**

While this course will largely draw from the Field textbook above, some of you may find it useful to refresh yourself on the fundamentals of microeconomics. The text below (or other similar texts) can enhance your quality of understanding of the information presented throughout the course.

### **Microeconomics**

Krugman, Paul & Wells, Robin (2015). *Microeconomics, 4<sup>th</sup> Ed.* MacMillan Publishing. ISBN-13: 978-1-4641-4387-8

## Course Calendar

Week	Dates	Chapter
<b>1</b>	1/14/2020	Ch. 1 - Important Issues in Natural Resource Economics
	1/16/2020	Introduction to Group Discussions; Climate Change Discussion
<b>2</b>	1/21/2020	Ch. 2 - Natural Resources and the Economy
	1/23/2020	Discussions in Use and Nonuse Values
<b>3</b>	1/28/2020	Ch. 3 - Valuing Natural Resources: Willingness to Pay/Demand
	1/30/2020	Discussions in Discounting
<b>4</b>	2/4/2020	Ch. 4 - Costs/Supply
	2/6/2020	Discussions in Marginal Social Costs
<b>5</b>	2/11/2020	No Class – Review sheet to be provided for exam
	2/13/2020	Exam I- Covers weeks 1-4
<b>6</b>	2/18/2020	Ch. 5 - Efficiency and Sustainability
	2/20/2020	Discussions in Sustainability
<b>7</b>	2/25/2020	History of Resource Extraction
	2/27/2020	Discussions in History of Resource Extraction
<b>8</b>	3/3/2020	Changing Rural Economies
	3/5/2020	Discussions in Changing Rural Economies
<b>9</b>	3/10/2020	Ch. 17 - Economics of Outdoor Recreation
	3/12/2020	Discussions in Outdoor Recreation
	3/17/2020	<b>Spring Break - No Classes</b>
	3/19/2020	
<b>10</b>	3/24/2020	Ch. 6 - Markets and Efficiency
	3/26/2020	Discussions in Open Access Resources
<b>11</b>	3/31/2020	Ch. 7 - Public Policy for Natural Resources
	4/2/2020	Discussions in Market Failure
<b>12</b>	4/7/2020	No Class – Review sheet to be provided for exam
	4/9/2020	Exam II – Covers weeks 6-12
<b>13</b>	4/14/2020	Ch. 8 - Principles of Analysis
	4/16/2020	Discussions in Economic Impact Analysis
<b>14</b>	4/21/2020	Ch. 9 - The Valuation of Natural Resources
	4/23/2020	Discussions in Valuation
<b>15</b>	4/28/2020	Ch. 12 - Forest Economics
	4/30/2020	Discussions in Forest Economics
<b>16</b>	5/5/2020	<b>FINAL - Tuesday - 8-10am, FOR 206</b>

## Required Assignments and Exams:

### Exams

See table above for scheduled exam dates. Actual test dates may vary depending on flow of course. Ample notice of change will be provided.

There are no make-ups for missed exams (except possibly for recognized and approved absences by the university). In the unlikely event that missing an exam is absolutely unavoidable (e.g. you are in the hospital), I must be informed **beforehand** or at the earliest possible time about the circumstances either by e-mail or phone call.

**All exams will be open note/book.** No electronic devices other than a basic single line calculator may be used.

### Homework (20 points each)

All assignments will be primarily derived from the **Questions for Further Discussion** found at the end of each chapter. Additional questions may be added by the instructor. The assignments consist of both discussion and problem solving questions. Homework will typically be assigned on the Tuesday corresponding with the chapter lecture, and due **BEFORE THE BEGINNING OF CLASS** one week after it was assigned.

**Homework will not be accepted late.** All homework must be submitted in word or pdf via **Moodle**. You may work together on assignments, but everyone is required to turn in their own original assignment. DO NOT just copy and “save as” someone else’s assignment. If two or more assignments are copies of one another, both will receive zero credit.

### ‘Discussions in’ Summaries (20 points each)

For each lecture topic, there will be an associated ‘Discussions in’ set of readings (1-3 additional readings). These discussions typically occur during Thursday classes and will be designed to be more of a student led discussion (in groups) as opposed to lecture. For each of these ‘discussions in’ sessions, students will arrive in class with prepared notes for discussion (see roles below).

Most Thursdays during the semester (see schedule), we will be engaged in small group discussions about the week’s readings. Preparation for these discussion, the actual discussion day interactions, and submitted materials, make up 200 of 700 points of your grade.

There are 12 discussion opportunities and your lowest 2 grades related to discussion will be dropped. There are 2 opportunities to earn points related to each discussion.

### **Coming Prepared (10 points/discussion:)**

Teams will be assigned the Thursday before each new section (1/16, 2/13, and 4/9). Roles within the team will rotate, so each person has an opportunity to engage in a different role. Role assignments will typically be posted on Thursdays by 5pm. So, for

example on 1/16 you will see posted in Moodle: 1) The readings for 1/23, 2) Group Assignments, 3) Role Assignment.

There are five roles in each team. Everyone is responsible for reading all the materials each week. Your role duties should be **performed for each of the readings** separately.

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### **ROLE 1: Investigating Authorship**

In this role, you will bring typed details about the authors of the readings to share with your team. Are they professors or graduate students? What are the authors' disciplinary and institutional affiliations? Are they "famous" in this area or new to the field? If details are not provided in the reading, search online for information about the author. Be sure to include where you found your information.

### **ROLE 2: Briefly Summarizing**

In this role, you will bring a typed summary of the main research questions, hypotheses, or arguments presented in each of the readings. If applicable, you will also briefly describe the methods used to answer the research questions. Finally, you will describe for your team, the primary conclusions.

### **ROLE 3: Identifying Key Concepts**

In this role, you will identify and define the key terms, concepts, and/or theories included in the reading. You will type up your contribution to the team like a glossary for the readings.

### **ROLE 4: The Critical Eye**

In this role, you will type up your overall reaction to the reading to share with your team. What did you like best/least about the readings? How persuasive was the evidence provided by the authors? Did the authors overlook anything? How could the reading/study be improved?

### **ROLE 5: Discussion Leader**

In this role, you will guide your team through the discussion day and bring at least 4 typed discussion questions per reading to keep discussion moving. You are also responsible for collecting your team's materials and submitting it to the professor or proctors.

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## **The Day of Discussion Tasks (10 points/discussion)**

1: Video (e.g., TedTalks) where applicable

2: After any announcements or videos, you will first get into groups consisting of the other people who also prepared for your role that week (e.g., people who investigated

the authors). In these groups, individuals will share what they prepared and receive feedback from each other. During this time, you are welcome to add hand-written information to the typed responses you brought to class. This should take 10-15 minutes.

3: Once you have vetted your materials with others in your role for the day, you will convene with your team to discuss your different contributions. The Discussion Leader (ROLE 5) for the week will be in charge of keeping discussion moving, on target, and on time. During this time teams will collectively write 5 multiple choice questions with a thoughtful stem, correct answer, and at least 3 incorrect answers (distractors). Please indicate the correct answer. Some of the questions being submitted will be used in the exams.

4: The last ten minutes should be set aside for the team members to individually complete the SWOT assessment (handed out during the discussion) and for the Discussion Leader to collect all the materials in the team folder and submit them to the professor or proctor.

### **Materials to be submitted in your Team Folder**

#### By Group

- Typed Investigating Authorship response
- Typed Brief Summary
- Typed Key Concepts
- Typed Critique
- 4 typed Discussion Questions per reading
- 5 hand-written multiple choice questions

#### By Individuals

- SWOT Analysis of Today's Discussion

***If you will be missing a discussion day, you may still receive half of the credit IF you can provide your typed response to a group member before class such that they can submit it to the group folder for you. You will not receive credit for the discussion. You must submit a SWOT to get discussion credit.***

### **Grading Policy**

Course grades will be based on the following components:

'Discussions in' Notes/Participation: 10 @ 20 points

Homework: 10 @ 20 points

Exam I: 100 points

Exam II: 100 points

Final Exam: 100 points

**Total Points Available 700 points**

Grade	Points Needed	Grade	Points Needed	Grade	Points Needed
A	658	B-	546	D	420
A-	630	C+	518	F	<420
B+	602	C	490		
B	574	C-	462		

## Course guidelines and policies:

### Student Conduct Code

The Student Conduct Code at the University of Montana embodies and promotes honesty, integrity, accountability, rights, and responsibilities associated with constructive citizenship in our academic community. This Code describes expected standards of behavior for all students, including academic conduct and general conduct, and it outlines students' rights, responsibilities, and the campus processes for adjudicating alleged violations.

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students are expected to understand their rights and responsibilities provided under [the Student Conduct Code](#)

### Attendance

Students are expected to attend all class meetings and complete all assignments. Brief and occasional absences for reasons of illness, injury, family emergency, and religious observance may be excused at the instructor's discretion. Absences related to participation in a University sponsored activity will be excused as long as proper notification is provided (University sponsored activities include for example, field trips, ASUM service, music or drama performances, and intercollegiate athletics.). Excused absences also include military service or mandatory public service.

### Course withdrawal and other important dates

Use this link for a list of official [Dates and Deadlines for 2020 Spring Semester](#). Responsibility is upon the students to know the dates for withdrawal and other relevant registration issues.

### Disability modifications

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and [Disability Services for Students](#). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or call 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.