

LH-M-E09: Environmental Economics

Fall 2021

Instructor information

Subhra K. Bhattacharya | Email: skbhattacharya@jgu.edu.in | Office hours: TBD

Course description

This is an introductory course on environmental economics and policy that exposes the students to the importance of the environment and natural resources, the relationship between environment and economics, important environmental problems and role of government in environmental regulation. The course begins with classical expositions on inefficient market allocation, externalities and public goods and well-known remedies. Then it explores the cost-benefit analysis and how to measure the valuation of environment and natural resources. Then it introduces the students to the tools of cost-benefit analysis and environmental regulation and policy. Finally, the course trains the students how to design environmental public policies and, in this context, the global policy issues like global warming and climate change are studied in detail.

Course evaluation

As per University regulation, students must maintain minimum of 75% attendance in class. This means that you cannot miss more than THREE sessions. Students with less than 75% attendance will not pass this required course.

The evaluation will be based on class participation, homework assignments, midterm topic writing/presentation and final examination. The weightage of each component will be as follows:

- Class participation (10%)
- In-class and homework assignments (20%)
- Midterm term paper/presentation/examination (30%)
- Final Examination (40%)

Grade definition

JSLH approves the use of this rubric for FINAL ASSESSMENT grading as indicated below:

O (80% and above) [8.0]	Outstanding
A+ (75%-79%) [7.5]	Excellent
A (70%-74%) [7.0]	Very good
A- (65%-69%) [6.0]	Good
B+ (60%-64%) [5.0]	Fair
B (55%-59%) [4.0]	Acceptable
B- (50%-54%) [3.0]	Marginal
F (Below 50%)	Fail

Textbook and references

This course will broadly follow the following textbooks and references, denoted by T and R in the end respectively (within parenthesis). Selected relevant research articles will be additionally referred to and provided to the students by the instructor at the due course in time.

- ❖ **Environmental and natural resource economics: a contemporary approach** by *Jonathan M. Harris and Brian Roach* (T)
- ❖ **Environmental Economics** by *Charles Kolstad* (T)
- ❖ **Public economics of the environment** by *Agner Sandmo* (R)
- ❖ **The Economics of the Environment** by *Peter Berck and Gloria Helfand*. ISBN-10: 0321321669 ISBN-13: 9780321321664 (R)

Prerequisites

- Principles of (micro)economics
- Quantitative skills

Topics and Timeline (tentative)

- ❖ Week 1: Theoretical and empirical tools for environmental economics.
 - Basic microeconomics: choice, comparative statics, welfare evaluations.
 - Basic quantitative skills: differential calculus and geometry.
 - Empirical methods: data analysis
- ❖ Week 2: An introduction to environment
 - Environmental science
 - Major issues and importance of environment
 - Environmental regulation
 - Important examples.
- ❖ Week 3: Economics of environment
 - First welfare theorem
 - Missing market and inefficiency
 - Benefit cost analysis.
- ❖ Week 4: Externalities and market failure
 - Externalities- positive and negative
 - Market failure- inefficiency
 - Application to the environment
- ❖ Week 5 and 6: Optimal pollution regulation
 - Pigouvian taxes- theory and literature
 - Pollution permits- Cap-and-trade
 - Coase bargaining
 - Prices vs Quantities (Weitzman 1974)
- ❖ Week 7-8: Introduction to Public good
 - Optimal public provision
 - Under-provision in market economy
 - Private provision of public good. Inefficiency and remedies.
- ❖ **Week 9: Midterm Evaluation.**
- ❖ Week 10-11: Measurement of environmental valuation

- Revealed preference or Hedonic price method
- stated preference or contingent valuation methods)
- A comparative study of literature
- ❖ Week 12-13: Environmental policy: regulation of airborne particulate matter (pm)
 - Economics and policy of pollution control
 - Scale of pollution impacts
 - Assessing pollution control policies
- ❖ Week 14-15: Environmental policy: Climate change and global warming
 - Causes and consequences of global climate change
 - Response to climate change
 - Climate change mitigation: economic analysis
 - Climate change: the technical challenge
 - Climate change policy and economic policy proposals
- ❖ Week 16: Final Examination

Classroom Punctuality/Conduct

JSLH conducts all classes on a foundation of professionalism. It is expected that students should be present in class and seated within five minutes of the class start time. Students arriving after a ten-minute window from the designated start time will be refused entry/attendance. Please show courtesy to your instructors and co-learners by observing punctuality. Please also note that the seminar room is a place for free expression and critical thinking, and this comes with a responsibility on the part of students to respect opinions expressed and actively participate in the work of the classroom discussion.

Academic integrity

Students are encouraged to work together in groups and participate in discussions that enhance the scope of peer learning significantly. However, unacknowledged use of intellectual property of others within your work is a violation of academic integrity and are strictly prohibited. In line with JGU policy, JSLH operates a zero-tolerance approach to Plagiarism. All reported cases of violation will be investigated before potential disciplinary action. Instructors will address methods of citation and presentation within written work. This issue is sensitive and will be discussed for better awareness in the introductory lecture. Plagiarism includes (but is not restricted to):

- direct copying from a book article, web site, or another student's assignment
- paraphrasing another person's work with minor changes, but keeping the meaning, form and/or progression of ideas of the original
- piecing together sections of the work of others into a new whole
- submitting an assignment that has already been submitted for assessment in another subject
- presenting an assignment as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor.

Disability Support and Accommodation Requirements

JGU endeavours to make all its courses accessible to students. All students with a known disability needing academic accommodations are required to register with the Disability Support Committee dsc@jgu.edu.in. The Committee has so far identified the following conditions that could possibly hinder student's overall well-being. These include physical and mobility related difficulties; visual impairment; hearing impairment; medical conditions; specific learning difficulties e.g. dyslexia; mental health. The Disability Support Committee maintains strict confidentiality in its discussions.