浙江大學

ECON939

Applied Environmental Economics and Policy Analysis

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Instructor Contact Details

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Teaching Times, Modes and Locations

Course Duration: 28 June 2026 to 17 July 2026
Modes: Face-to-face
Location: Huajiachi Campus, Zhejiang University via face-to-face

Academic Level

Postgraduate

Credit Points:

The course is worth 6 units of credit point.

Credit Hours

The number of credit hours of this course equals to the credits of a standard semester- long course.

Contact Hours

The course contains a total of 53 contact hours, which consists of orientation, lectures, seminars, quiz, discussion, research, case study, small tests, assignments, on-site field trip(s), in-class and after-class activities, revision, self -study, and final exam. Students will receive an official transcript which is issued by Zhejiang University when completing this course.

Enrolment Requirements

Eligibility requires enrollment in an overseas university as an undergraduate or
postgraduate student, proficiency in English, and pre-approval from the student's home institution.

Course Description:

This course provides an advanced economic analysis of environmental problems arising from market failure, with a particular focus on the natural environment. It examines the economic mechanisms through which inefficiencies emerge, including externalities, public goods and imperfect market structures, and evaluates the role of government intervention and regulatory frameworks in addressing these challenges. The course explores a range of policy approaches for environmental regulation, such as market-based instruments, regulatory controls and incentive-based mechanisms, and considers their efficiency and distributional implications. Emphasis is placed on the economic measurement of environmental quality and the assessment of demand for environmental improvements, enabling students to critically evaluate environmental policies and regulatory strategies using rigorous economic reasoning and applied analytical tools.

Prerequisite:

N/A

Learning Resources

- Tietenberg, T., & Lewis, L. (2018). Environmental and natural resource economics (11th ed.). Routledge.
- Perman, R., Ma, Y., McGilvray, J., & Common, M. (2011). Natural resource and environmental economics (4th ed.). Pearson Education.

Learning Objectives

By the end of this course, students will be able to:

1. Analyse environmental problems using advanced economic concepts and frameworks, and identify the key economic drivers underlying environmental inefficiencies.

2. Evaluate alternative institutional and regulatory arrangements for addressing environmental challenges, and assess their effectiveness in supporting policy solutions.

3. Critically assess data requirements and identify appropriate data sources for conducting rigorous environmental economic analysis.

4. Formulate and clearly communicate policy implications derived from environmental economic analysis, with consideration of economic efficiency and institutional constraints.

5. Develop and apply suitable economic conceptual frameworks to support the analysis of complex environmental problems.

6. Apply quantitative and empirical methods in environmental economics, including optimisation techniques, econometric analysis and valuation methods for environmental goods.

Course Delivery:

Face-to-face Lecture mode includes lectures, seminars, quiz, discussion, research, case study, small tests, assignments, on-site field trip(s), in-class and after- class activities, revision, and final exam.The following course will be taught in English. There will also be guest speakers and optional field trips available for students who would like to enhance their learning experience. All courses and other sessions will be run during weekdays.

Topics and Course Schedule:

WK	Topic	Activities
1	Orientation	
1	Overview of environmental economics and market failure	Lecture; Tutorial
1	Efficiency, markets and welfare analysis	Lecture; Tutorial
1	Externalities and environmental pollution	Lecture; Tutorial
1	Public goods, common resources and open-access problems	Lecture; Tutorial
1	Property rights and institutional foundations	Lecture; Tutorial
2	Valuation of environmental quality	Lecture; Tutorial
2	Non-market valuation methods	Lecture; Tutorial
2	Benefit-cost analysis for environmental policy	Lecture; Tutorial
2	Environmental regulation and policy design	Lecture; Tutorial
2	Quiz / Case Analysis	Lecture; Tutorial
2	Renewable resources and sustainable management	Lecture; Tutorial
3	Economic analysis of air pollution	Lecture; Tutorial
3	Climate change economics and policy responses	Lecture; Tutorial
3	Growth, trade and sustainable development	Lecture; Tutorial
3	Integrated environmental policy analysis and course review	Lecture; Tutorial
3	Final Review and Course Integration	Tutorial
3	Final Exam	Closed book

Assessments:

Class participation	15%
Quiz	15%
Assignments	20%
Final exam	50%

Grade Descriptors:

HD	High Distinction	85-100
D	Distinction	75-84
Cr	Credit	65-74
P	Pass	50-64
F	Fail	0-49

Pass Requirement (Double Pass Rule)

To pass this course, students are required to achieve:

- an overall mark of 50% or above, and
- a pass mark (50% or above) in the Final Examination.

Students who achieve an overall mark of 50% or above but do not achieve a pass in the Final Examination will receive a fail grade for the course.

High Distinction 85-100

- Treatment of material evidences an advanced synthesis of ideas Demonstration of initiative, complex understanding, and analysis.
- Work is well-written and stylistically sophisticated, including appropriate referencing, clarity, and some creativity where appropriate.
- All criteria addressed to a high level.

Distinction 75-84

- Treatment of material evidences an advanced understanding of ideas Demonstration of initiative, complex understanding and analysis Work is well-written and stylistically strong.
- All criteria addressed strongly.

Credit 65-74

- Treatment of material displays a good understanding of ideas.
- Work is well-written and stylistically sound, with a minimum of syntactical errors.
- All criteria addressed clearly.

Pass 50-64

- Treatment of material indicates a satisfactory understanding of ideas Work is adequately written, with some syntactical errors.
- Most criteria addressed adequately.

Fail 0-49

- Treatment of ideas indicates an inadequate understanding of ideas Written style inappropriate to task, major problems with expression.
- Most criteria not clearly or adequately addressed.

Academic Integrity

Students are expected to uphold the university's academic honesty principles which are an integral part of the university's core values and principles. If a student fails to observe the acceptable standards of academic honesty, they could attract penalties and even disqualification from the course in more serious circumstances. Students are responsible for knowing and observing accepted principles of research, writing and any other task which they are required to complete.

Academic dishonesty or cheating includes acts of plagiarism, misrepresentation, fabrication, failure to reference materials used properly and forgery. These may include, but are not limited to: claiming the work of others as your own, deliberately applying false and inaccurate information, copying the work of others in part or whole, allowing others in the course to copy your work in part or whole, failing to appropriately acknowledge the work of other scholars/authors through acceptable referencing standards, purchasing papers or writing papers for other students and submitting the same paper twice for the same subject. This Academic Integrity policy applies to all students of the Zhejiang University in all programs of study, including non-graduating students. It is to reinforce the University's commitment to maintain integrity and honesty in all academic activities of the University community.

Policy

The foundation of good academic work is honesty. Maintaining academic integrity upholds the standards of the University. The responsibility for maintaining integrity in all the activities of the academic community lies with the students as well as the faculty and the University. Everyone in this community must work together to ensure that the values of truth, trust and justice are upheld.

Academic dishonesty affects the University's reputation and devalues the degrees offered. The University will impose serious penalties on students who are found to have

violated this policy. The following penalties may be imposed:

- ✓ Expulsion
- ✓ Suspension
- ✓ Zero mark /fail grade
- ✓ Marking down
- ✓ Re-doing/re-submitting of assignments or reports, and
- ✓ Verbal or written warning