MASUDEM
MASTER STUDIES IN SUSTAINABLE DEVELOPMENT AND MANAGEMENT

SYLLABUS

Name of course	**ENVIRONMENTAL ECONOMICS AND POLICY**				
Code of course					
University					
Faculty					
GENERAL INFORMATION					
Degree level	MASTER				
Year of study		**Semester**			
Subject of study					
Language required for the course	ENGLISH				
List of degree programs					
ACTIVITIES					
Number of credits, ECTS	3 credits (cca 5 ECTS)				
Lectures, hours	2 hours	**Practices (laboratories, workshop), hours**	2 hours	**Project, hours**	6 hours
Per week	3 hours	**Per course**		48 hours	

COURSE DESCRIPTION

This course is designed to impart students with a thorough grounding in economic theory and the analysis of policies, particularly in the context of modern environmental issues. The primary objective is to acquaint students with essential analytical principles and relevant economic theories. A specific emphasis is placed on elucidating the underlying causes of various environmental challenges, particularly those stemming from market failures.
Moreover, the course delves into distinct realms of environmental policy, encompassing topics such as climate change, while critically assessing a diverse array of economic policy analysis instruments. Particular attention is given to understanding the implications of these policies on both corporate entities and individuals.

AIM OF COURSE

To provide students with a rigorous understanding of the economic principles and policies related to the environment, highlighting the complexities and challenges of sustainable development. The course will be structured to offer a blend of theoretical knowledge, real-world examples, and policy applications.

CONTENT

- ✓ Introduction to Environmental Economics
  1. Understanding the relationship between the economy and the environment
  2. The roles of markets and externalities
  3. Fundamental concepts: scarcity, opportunity cost, marginalism

- ✓ Market Failures and the Environent
  1. Exploration of market failures: public goods, externalities, information asymmetry
  2. The tragedy of the commons and its implications
  3. Historical case studies highlighting market failures

- ✓ Economic Valuation of Environmental Resources
  1. Introduction to non-market valuation techniques
  2. Contingent valuation, hedonic pricing, and travel - cost methods
  3. Challenges and criticisms of valuation techniques

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- ✓ Cost-Benefit Analysis in Environmental Decision Making
  1. Principles of cost - benefit analysis
  2. Integrating environmental considerations
  3. Real - world applications and case studies

- ✓ Non – Renewable Resources: Economics and Policy
  1. Economic principles governing non - renewable resources
  2. Hotelling's Rule, scaricity, and exploration
  3. Policy implications for fossil fuels, minerals, and other non - renewables

- ✓ Economics of Renewable Resources
  1. Dynamics of renewable resources: fisheries, forests, freshwater
  2. Concept of Maximum Sustainable Yield
  3. Policies for sustainable management

- ✓ Climate Change Economics
  1. Economic theories around climate change
  2. Cost inaction VS. Cost of mitigation
  3. Market - based solutions: carbon pricing, cap - and - trade
  4. Current discussion and contrast views of climate change

- ✓ Environmental Policy Instruments, Justice and Equity
  1. Command - and - control VS. Market - based instruments, taxes, subsidies, and tradeable permits
  2. Analysis of policy efficiency and effectiveness
  3. Distributional effects of environmental policies with case studies on environmental justice challenges

- ✓ International Environmental Agreements
  1. Challenges in international environmental cooperation
  2. Case studies: Kyoto Protocol, Paris Agreement, Montreal Protocal
  3. Role of international organizations: UNEP, IPCC and their controversial impact

- ✓ Economics of Biodiversity and Conservation
  1. Valuing biodiversity: instrumental vs. intrinsic values
  2. Cost - effectiveness of conservation strategies
  3. Case studies on global conservation initiatives

- ✓ Behavioral Economics and the Environment
  1. Understanding human behavior and biases
  2. Nudge theory and its application to environmental issues
  3. Case studies: single - use plastics, water conservation

- ✓ Susjtainability and Development: Integrating Economics, Environment, and Society
  1. The Environmental Kuznets Curve hypothesis
  2. Sustainable development goals and their economic implications and role of decision - making
  3. Strategies for achieving a balance between economic growth, environmental protection, and social equity

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EVALUATIONS *(add lines as needed)*		
1	Assignment	*20 %*
2	Workshop	*30 %*
3	Seminar	*50 %*

ASSESSMENT CRITERIA

✓ **Summative Assessment Methods - Examinations:**

1. Assignements

1.1 Assignments in this course serve as an essential component for assessing students' understanding and application of the course material. The assignments typically involve tasks where students are required to apply economic concepts and principles to real - world environmental issues. These assignments can take various forms:

1.1.1 Case Studies: Students might be tasked with analyzing specific environmental case studies, identifying economic drivers, and proposing policy solutions. This helps students connect theory to real - world situations.

1.1.2 Policy Analyses: Assignments can involve evaluating existing environmental policies, or designing new ones, while considering economic implications. This may include assessing the impact on market dynamics, externalitites, and social welfare.

The purpose of assignments is to encourage critical thinking, research skills, and the application of economic theories to environmental challenges.

2. Workshops

2.1 Workshops are interactive sessions designed to complement the theoreticl aspects of the course with practical applications and collaborative learning. The workshops may include:

2.1.1 Guest Speakers: Inviting experts or professionals from the field of environmental economics and policy to lead worksships can provide students with insights from real - world practice. Guest speakers can share their experiences and engage in discussions with students.

2.1.2 Debates and Discussions: They can also include on current environmental policy issues. Students may be assigned roles to argue for or against particular policies, encouraging them to see multiple perspecitives.

The purpose of workshops is to enhance students' practical skills, foster critical thinking, and facilitate a deeper understanding of hoe economic theory is applied to address environmental issues in practice. These sessions often provide opportunities for peer learning and engagement with real - world problems.

3. Seminars

3.1 This seminar aims to provide participants with a comprehensive understanding of environmental economics and policy. It will explore the intricate relationship between economics, the environment, and policy, and how they intersect to address pressing environmental chaleenges. The seminars will feature expert speakers, interactive discussions, and practical case studies.

✓ **Summative Assessment Methods - Coursework and in - class tests:**

Students will complete an assignment, a workshop and a seminar which will include as a course evaluation.

✓ **Formative Assessment Methods:**

Before instruction statrts, clarify what students are learning and let them know how to gauge;

Designing effective discussions and questions takes practice;

Sharing the feedback that focuses on the task, causes students to reflect on their performance, and includes and information for future action;

Supporting students in figuring out which learning strategies work best for them.

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✓ **Penalties for late submission:**

Where the piece of both the take home examinations is submitted after the original deadline (or any formally agreed extension to the deadline): 10 % of the total marks available for that piece of work will be deducted from the mark for each working day (or part thereof) following the deadline up to a total of five working days;

Where the piece of both the take home examinations is submitted more than five working day after the original deadline (or any formally agreed extension to the deadline): a mark of zero will be recorded.

PRE-REQUIREMENTS FOR STUDENTS

1. Introductory Economics: Students are often expected to have a foundational understanding of Microeconomics and Macroeconomics including concepts like supply and demand, market structures, cost analysis, and economic principles.
2. Statistics: A basic knowledge involves data analysis and econometric techniques. Understanding statistical methods is essential for interpreting and conducting research related to environmental issues.
3. Environmental Science or Sustainability: This background knowledge helps students appreciate the environmental context in which economic theories and policies are applied.
4. Mathematics: The environmental economics courses involve mathematical modeling and optimization.
5. Economic Theory: This includes understanding concepts like externalities, market failure, and cost - benefit analysis.
6. Policy Analysis: It may require prior coursework or knowledge in policy analysis or public administration, as a fundamental understanding of how policies are developed, implemented, and evaluated is crucial.
7. Research and Writing Skills: Strong research and acdemic writing skills are essential to succeed in these assignments.

LEARNING OUTCOMES

PERSPECTIVE OF AN ECONOMIST, AND HOPE THIS WILL INFORM THE ENGAGEMENT WITH THE WORLD'S IMPORTANT ENVIRONMENTAL POLICY DEBATES.

Competencies:

Students should have

1. Leadership and collaboration on project and initiatives related to environmental economics and policy
2. Public engagement with stakeholders, and policy makers to advocate for environmentally responsible policies
3. Time management and organization to balance coursework, research, and other commitments
4. Policy Implementation knowledge including the role of various stakeholders and organizations
5. Cultural competence and its relevance to environmental policy and decision - making

Skills:

Students should be able to

1. Understand of environmental sciecne principles to appreciate the ecological context of economic decisions and policies
2. Adapt to changing environmental and economic conditions and evolving policy landscapes
3. Consider the interconnected nature of environmenatal issues and the broader systems in which they operate
4. Lead and guide initiatives related to environmental economcs and policy
5. Motivate and inspire others in environmental endeavors

LEARNING STRATEGIES

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✓ **Students should:**

- apply the concepts and frameworks that characterize an efficient allocation of resources.
- analyze the different types of institutions that can contribute to achieving efficiency with respect to private goods, public goods, and common pool resources.

evaluate the main types of policy tools that governments can use to correct market failures related to the environment.

RECOMMENDED SOURCES

1. HARTWICK, JOHN M., OLEWILER, NANCY D. 1997. THE ECONOMICS OF NATURAL RESOURCE USE. PEARSON EDUCATION.
2. TIETENBERG, T. 1992. ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS (3RD EDITION). NEW YORK: HARPERCOLLINS PUBLISHERS INC.
3. KOLK, A. 2000. ECONOMICS OF ENVIRONMENTAL MANAGEMENT. PRENTICE HALL.
4. SNELL, MICHAEL. 1997. COST-BENEFIT ANALYSIS. LONDON: THOMAS TELFORD.

GILPIN, ALAN. 1995. ENVIRONMENTAL IMPACT ASSESSMENT: CUTTING EDGE FOR THE TWENTY-FIRST CENTURY. CAMBRIDGE: CAMBRIDGE UNIVERSITY PRESS.

Compulsory literature:

1. Callan, Scott J. and Thomas, Janet M. 2007. Environmental Economics and Management: Theory, Policy, and Applications. Thomson South-Western. (CC)
2. Field, Barry C. and Field, Martha K. 2006. Environmental Economics: An Introduction. 4th Ed. McGraw-Hill. (FF)
3. Turner, Pearce, and Bateman. 1994. Environmental Economics: An Elementary Introduction. Harvester Wheatsheaf. (TB)
4. Wagner, Gernot, and Martin Weitzman. Climate Shock. Princeton University Press, February 22, 2015.
5. Henderson, Rebecca, Gulati, Ranjay, and Michael Tushman. Leading Sustainable Change: An Organizational Perspective. Oxford University Press, January 29, 2015.
6. Jorgenson, Dale W., Richard J. Goettle, Mun S. Ho, and Peter J. Wilcoxen. "Double Dividend: Environmental Taxes and Fiscal Reform in the United States." Cambridge, Massachusetts: MIT Press. November 2013.

Suggested reading:

1. Janet M. Thomas and Scott J. Callan (2010) “Environmental Economics: Applications, Policy, and Theory”. South-Western Cengage Learning: USA.
2. Tom Tietenberg and Lynne Lewis (2018) “Environmental and Natural Resource Economics”. Routledge: USA.
3. Barry C. Field and Martha K. Field (2009) “Environmental Economics: An Introduction” McGraw-Hill
4. Stavins, Robert N. Economics of Climate Change and Environmental Policy: Selected Papers of Robert N. Stavins, 2000-2011. Northampton, Massachusetts: Edward Elgar Publishing, Inc. 2013.
5. Stavins, Robert N. Economics of the Environment. New York: W.W. Norton. January 2012.
6. Henderson, Rebecca, and Richard G. Newell, eds. Accelerating Energy Innovation: Insights from Multiple Sectors. University of Chicago Press for National Bureau of Economic Research, 2011.

Selected internet sources:

1. Environmental attitudes among Europeans: the moderating effects of volunteering and sports club membership

Authors Christoph BührenPamela Wicker

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https://link.springer.com/article/10.1007/s10018-023-00373-1

2. Tsiarapas, A., Mallios, Z. Estimating the long-term impact of market power on the welfare gains from groundwater markets. *Environ Econ Policy Stud* 25, 377–406 (2023). https://doi.org/10.1007/s10018-023-00368-y

3. akita, A., Zhang, D. Environmental policies with variable pollution intensity in a differentiated oligopoly. *Environ Econ Policy Stud* 25, 269–283 (2023). https://doi.org/10.1007/s10018-022-00358-6

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4. Aldy, Joseph E., and Robert N. Stavins, eds. Post-Kyoto International Climate Policy: Implementing Architectures for Agreement. Cambridge, UK: Cambridge University Press, 2010. https://www.tandfonline.com/doi/abs/10.1080/19390459.2011.604555
5. Robert N. Stavins, and Joseph E. Aldy, eds. (2009). Post-Kyoto International Climate Policy: Summary for Policymakers. Cambridge, UK: Cambridge University Press. September 2009. https://www.belfercenter.org/publication/post-kyoto-international-climate-policy-summary-policymakers
6. Aldy, Joseph, and Robert N. Stavins, eds. (2007). Architectures for Agreement Addressing Global Climate Change in the Post-Kyoto World. UK: Cambridge University Press. https://www.belfercenter.org/publication/architectures-agreement-addressing-global-climate-change-post-kyoto-world

GROUP OF COURSE DEVELOPERS

Course Leader: Assoc. Prof. Dr. Suppanunta Romprasert; Asst. Prof. Dr. Nantarat Tangvitoontham

Board: Assoc. Prof. Dr. Vesarach Aumeboonsuke; Assoc. Prof. Dr. Aweewan Panyagometh; Dr. Mgr. Ondrej Pavelek

Date of approval the course:

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