

COURSE OUTCOME

KM521 – ENVIRONMENTAL AND NATURAL RESOURCES ECONOMICS

1. GENERAL

INSTITUTE	UNIVERSITY OF THESSALY		
SCHOOL	SCHOOL OF TECHNOLOGY		
DEPARTMENT	FORESTRY, WOOD SCIENCES AND DESIGN		
LEVEL	Undergraduate		
CODE	KM521	STUDENT SEMESTER	5 th
COURSE TITLE	ENVIRONMENTAL & NATURAL RESOURCES ECONOMICS		
ACTIVITIES		WEEKLY HRS	ECTS
	Lectures	2	
	Workshops	1	
	TOTAL	3	5
TYPE OF COURSE	Scientific field		
PREREQUISITES:	NO		
LANGUAGE OF TECHING AND EXAMINATION:	Greek		
COURSE OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBPAGE (URL)			

2. LEARNING OUTCOMES

Learning outcomes
<p>The aim of the course is the introduction to economic analysis which is necessary for the understanding of the main issues of environmental policy</p> <p>After the successful completion of the course, the student will be able to:</p> <ul style="list-style-type: none"> • Understand the services and the goods that forest ecosystems produce • Separate the ways that the economics of natural resources and environmental economics deal with these services • Evaluate with economic terms material and non-material goods from the forest ecosystems and other natural resources services • Use easily the statistic and econometric methods for the evaluation of environmental goods • Gain the capability of information around the international evolvments, trends and perspectives regarding the implemented international policies for environmental and natural resources economics • Understand the meaning of discounting in environmental resources, to account and price ecosystem services • Contribute to optimization of economic resources allocation for better environmental management of organizations and businesses • Develop cooperative culture and attitude.
General Skills

- Search, analysis and composition of data and information, with the use of necessary technologies
- Adjustment in new conditions
- Decision making
- Autonomous work
- Social, professional and moral responsibility
- Implementation of criticism and self-criticism
- Promotion of independent, creative and inductive thinking

3. COURSE CONTENT

In the theoretical part of the course the student will be trained and learn about:

- Introductory meanings and terms in the field of environmental and natural resources economics
- Principles of economic theory with application in the environment and natural resources.
- Interactions of the environment with the economy and the society, the role of environmental economics to sustainable development.
- Distinguishment of natural resources: renewable, recyclable, reserved and exhaustible resources.
- Means and methods of economic valuation of environmental goods.
- Ownership rights, externalities and environmental problems.
- Cost-Benefit Analysis, financial analysis of investments, investments' evaluation criteria.
- Economics of climate change, carbon trading, carbon stock exchange
- Reserved, recyclable resources: The forests
- Operation of environmentally friendly enterprises, circular economy
- Environmental justice, connection between poverty and environmental issues.
- Implementation of environmental policy, norms, taxes.
- The course includes and practical workshops for the implementation of the above knowledge with the use of contemporary software.

The workshops of the course include one (1) hour per week. The attending of workshops is mandatory for students at a 50% at. At the 1st lesson it is highlighted by the teaching staff the necessity of the attendance, as well as for theory, while motivation is given for the continuous participation of the students.

Basically the workshops of the course constitute a continue of the theory, where exercises are solved that have practical application to the field, while several case studies of economic valuation of environmental goods are presented. The aim of the workshops is for the students to maximize the knowledge gained from the theoretical part, with practical exercise and development of constructive dialogue, solving of questions and concerns, as well as the acquisition of tangible knowledge and implementation of basic principles of the field of environmental and natural resources economics in practice.

During the 5th week of courses, it is given by the teaching staff a list of possible subjects related with the content of the course and it is asked by the students to choose the subject of their course assignment.

The relative directions are given while rich content and instructions are uploaded to e-class.

The final assignment of the course includes, besides the writing, public oral presentation for the chosen subject in a given date (usually during the 12th week of courses). The oral presentation lasts 10' and 5' of questions follow, by the present students. The teaching staff interferes - if needed - for comments, remarks, corrections. The evaluation of the assignment is countable at a 20% to the final scoring of the course. The rest percentage has to do with the final written exams of the theoretical part of the course.

4. TEACHING AND LEARNING METHODS - EVALUATION

DELIVERY METHOD	In classroom
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USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<ul style="list-style-type: none"> • Use of PC, slides ppt, projector • Support of teaching process through the e-class platform • Interactive whiteboard • Eight (8) PC's in the Laboratory for practical use of students in questionnaire analysis software. 	
MANAGEMENT OF TEACHING	Activity	Semester Workload
	Lectures	26
	Exercises focusing to the implementation of methodologies and case studies analysis in smaller groups of students	13
	Personal assignments in economic valuation of environmental goods	30
	Short personal assignments for practice	10
	Autotelic study	71
	Course total (25 hours of workload per credit unit)	150
STUDENT EVALUATION	<p>I. Written exams (80%) including:</p> <ul style="list-style-type: none"> - Questions of short answers from the whole material of the book - Solving of exercises related to the field of the course <p>II. Presentation of assignments (20%)</p>	

5. RECOMMENDED-BIBLIOGRAPHY

-Recommended books :

- Tietenberg, T. And Lewis, L. (2010). Environmental and Natural Resources Economics. Gutenberg, Athens, pages. 1030, ISBN 978-960-01-1337-2, Evdoxos code: 32269
- Chalkos G. Em. (2016). Environmental and Natural Resources Economics. Disigma publications. Κωδικός Β Evdoxos code: 77112080, ISBN: 978-960-9495-84-4
- Daly, H. E., & Farley, J. (2011). Ecological economics: principles and applications. Island press.
- Wagner, J. E. (2011). Forestry economics: a managerial approach. Routledge.
- Haab, T. C. & McConnell K.E., (2002): Valuing Environmental and Natural Resources: The Econometrics of Non-Market Valuation. Edward Elgar Publishing..

-Relative scientific journals:

- Journal of Environmental Economics and Management
- Ecological Economics
- Journal of Forest Economics
- Forest Policy and Economics
- Journal of Environmental Management
- Journal of Cleaner Production
- Ecosystem Services

- Environmental and Resource Economics
- Resource and Energy Economics
- Energy Economics
- Sustainability