

Economics and Management of Natural Resources (I002718)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course size (nominal values; actual values may depend on programme)
Credits 4.0 Study time 120 h Contact hrs 40.0 h

Course offerings and teaching methods in academic year 2020-2021

A (semester 2)	English	Gent	Teaching Methods	Hours
			lecture: plenary	5.0 h
			exercises	
			group work	5.0 h
			seminar: coached	5.0 h
			exercises	
			lecture	25.0 h

Lecturers in academic year 2020-2021

Speelman, Stijn

LA27 lecturer-in-charge

Offered in the following programmes in 2020-2021

Programme	crdts	offering
International Master of Science in Soils and Global Change (main subject Physical Land Resources and Global Change)	4	A
International Master of Science in Agro- and Environmental Nematology	4	A
Master of Science in Biology	4	A
Master of Science in Aquaculture	4	A
Master of Science in Bioscience Engineering: Forest and Nature Management	4	A
Master of Science in Bioscience Engineering: Agricultural Sciences	4	A
Master of Science in Bioscience Engineering: Land and Water Management	4	A
Master of Science in Nutrition and Rural Development	4	A
Exchange Programme in Bioscience Engineering: Agricultural Sciences (master's level)	4	A
Exchange Programme in Bioscience Engineering: Environmental Technology (master's level)	4	A
Exchange Programme in Bioscience Engineering: Land and Forest management (master's level)	4	A

Teaching languages

English

Keywords

Natural resources, environmental economics, bio-economic modeling, management models, project appraisal

Position of the course

To provide students with basic knowledge about the economics and management of the exploitation of natural resources. This is a need because the optimal use of land, water, forest and other natural resources is based on economic principles. Further, the negative and positive externalities of the use of natural resources are analysed and adapted rural development and environmental policies are discussed. Theoretical principles are illustrated by exercises and case studies. Besides the normal exercises, students are asked to do a group work in which the theory is applied to a specific contemporary problem concerning environmental pollution or natural resource management.

Contents

I. FOUNDATIONS

An introduction to natural resource and environmental economics

The origins of the sustainability problem

Ethics, welfare economics and the environment

Concepts of sustainability

Welfare economics and the environment

II. ENVIRONMENTAL POLLUTION

Pollution control: targets

Pollution control: instruments

Pollution policy with imperfect information

III. PROJECT APPRAISAL

Cost benefit analysis

Valuing the environment

IV. NATURAL RESOURCE EXPLOITATION

The efficient and optimal use of natural resources

Non-renewable resources

Renewable resources

Initial competences

Basic knowledge of general economics

Final competences

- 1 • Mastering basic principles of management of natural resources
- 2 • Having knowledge of used principles, models and management skills for an optimal use of natural resources and of the instruments for environmental policies.
- 3 Being able to apply the management models for both renewable and non-renewable resources
- 4 Being able to present, propose and analyse contemporary problems of natural resource management
- 5 Being able to analyse and propose environmental policy instruments
- 6 Being able to discuss and analyse possible solutions for pollution problems
- 7 Being able to apply environmental valuation techniques

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Group work, lecture, lecture: plenary exercises, seminar: coached exercises

Extra information on the teaching methods

Lectures provide the theoretical concepts which are deepened in both guided plenary and exercise sessions. The course is complemented with a group work in which students need to apply the theory to a specific contemporary problem concerning environmental pollution or natural resource management. This group work is presented to and discussed with the lecturers.

Learning materials and price

Perman, R., Ma, Y., Common, M., Maddison D., Mcgilvray, J., (2011). Natural resource and environmental economics

Course presentations are available on Ufora.

References

Frank A. Ward, F.A. (2006) Environmental and natural resource economics

Pearson/Prentice Hall, 2006, 610 p.

Folmer, H., Tietenberg, T. (2006) The international yearbook of environmental and resource economics 2005/2006: a survey of current issues Cheltenham: Elgar, 2005, 324 p.

Course content-related study coaching

Interactive support through ufora.

Specific coaching on appointment by assistant.

Evaluation methods

end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period

Written examination

Examination methods in case of periodic evaluation during the second examination period

Written examination

Examination methods in case of permanent evaluation

Oral examination, peer assessment, report

Possibilities of retake in case of permanent evaluation

examination during the second examination period is not possible

Extra information on the examination methods

For the permanent evaluation, students work together to make a presentation about a contemporary topic related to the course. After the presentation their topic will be discussed with all the group members as an oral exam.

Calculation of the examination mark

Final score = $\frac{3}{6}$ theory + $\frac{1}{6}$ exercises + $\frac{2}{6}$ group work

Students who eschew period aligned and/or non-period aligned evaluations for this course unit can obtain a score no higher than 9/20.