

Introduction to the Circular Economy, Economics and Management of Natural Resources (I002766)

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	<i>(nominal values; actual values may depend on programme)</i>		
Credits 4.0	Study time 120 h	Contact hrs	40.0 h

Course offerings and teaching methods in academic year 2021-2022

A (semester 1)	English	Gent	lecture: plenary exercises	10.0 h
			lecture	20.0 h
			group work	5.0 h
			seminar: coached exercises	5.0 h

Lecturers in academic year 2021-2022

Speelman, Stijn	LA27	lecturer-in-charge
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Offered in the following programmes in 2021-2022

	crdts	offering
International Master of Science in Sustainable and Innovative Natural Resource Management	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, circular economy, project appraisal

Position of the course

Students are introduced into the circular economy. Guest lecturers from the non-academic sector illustrate how a problem arising from a resource supply risk can be turned into an economic opportunity and what the societal impacts are. Moreover, students are provided with basic knowledge about the economics and management of the exploitation of natural resources. This is a need because the optimal use of natural resources is based on economic principles. Furthermore, 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 the circular economy, natural resources 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

IV. NATURAL RESOURCE EXPLOITATION

Valuing the environment

The efficient and optimal use of natural resources

Non-renewable resources

V. ASPECTS OF THE CIRCULAR ECONOMY

Initial competences

Notion of economic principles

Final competences

- 1 Having knowledge of used principles, models and management skills for an optimal use of natural resources
- 2 Being able to analyse and present contemporary problems of natural resource management
- 3 Being able to evaluate and propose environmental policy instruments
- 4 Being able to analyse and discuss possible solutions for pollution problems

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

Excursion, group work, lecture, lecture: plenary exercises, seminar: coached exercises

Extra information on the teaching methods

Lectures provide the theoretical concepts which are deepened in 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, 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 = 3/6 theory + 1/6 exercises + 2/6 group work

Students who eschew period aligned and/or non-period aligned evaluations for this course unit can obtain a score not higher than 9/20.