GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2026-2027

Economics and Management of Natural Resources (I002718)

Course size *(nominal values; actual values may depend on programme)*

Credits 4.0 **Study time 120 h**

Course offerings and teaching methods in academic year 2027-2028

A (semester 2)	English	Gent	group work lecture seminar

Lecturers in academic year 2027-2028

Speelman, Stijn	LA27	lecturer-in-charge

Offered in the following programmes in 2027-2028	**crdts**	**offering**
Master of Science in Sustainable Land Management(main subject Land and Groundwater Management)	4	A
International Master of Science in Soils and Global Change (main subject Soil Ecosystem Services and Global Change)	4	A
Master of Science in Sustainable Land Management(main subject Urban Land Engineering)	4	A
International Master of Science in Agro- and Environmental Nematology	4	A
International Master of Science in Rural Development	4	A
Master of Science in Environmental Science and Technology	4	A
Master of Science in Geology	4	A
Exchange Programme in Bioscience Engineering: Agricultural Sciences (master's level)	4	A
Exchange Programme in Bioscience Engineering: Ecosystem Management (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
Cross-Disciplinary Elective Set for Bioscience Engineers	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 Understanding principles, models and management skills for an optimal use of natural resources and of the instruments for environmental policies.
3 Applying the management models for both renewable and non-renwable resources
4 Present, propose and analyse contemporary problems of natural resource management
5 Analyse and propose environmental policy instruments
6 Discuss and analyse possible solutions for pollution problems
7 Understand 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, Seminar, Lecture

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.

Study material

Type: Handbook

Name: environmental and natural resource economics
Indicative price: € 68
Optional: yes
Language : English
Author : Jonathan Harris and Brian Roach
ISBN : 978-0-36753-138-6
Number of Pages : 704
Available in the Library : Yes

Type: Slides

Name: slides of theory lectures
Indicative price: Free or paid by faculty
Optional: no
Language : English
Available on Ufora : Yes

References

Course content-related study coaching

Interactive support through ufora.
Specific coaching on appointment by assistant.

Assessment moments

end-of-term and continuous assessment

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

Written assessment with open-ended questions

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

Written assessment with open-ended questions

Examination methods in case of permanent assessment

Oral assessment, Peer and/or self assessment, Assignment

Possibilities of retake in case of permanent assessment

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 =theory (50%) + exercises (20%) + group work (30%)
Students who eschew one or more parts of the evaluation may be failed by the examiner. Final scores of 10/20 and above may be reduced to 7/20