Course syllabus

Miljövetenskap och antropocen
Environmental Science and the Anthropocene

IMEN01, 5 credits, A (Second Cycle)

Valid for: 2018-2019 XAMIS
Decided by: PLED W
Date of Decision: 2018-03-22

General Information

Main field: Environmental Management and Policy. Depth of study relative to the degree requirements: Second cycle, has only first-cycle course/s as entry requirements.
Compulsory for: XA_EMP1
Language of instruction: The course will be given in English

Aim

Understanding environmental science is integral in order to begin to theorise sustainability solutions in business, policy, and society at large. As such, this course will facilitate students’ comprehension of complex ecological systems, taking special effort to explore anthropogenic impacts on the environment and related systems. The course focuses on sustainability challenges, asking students to think critically about the impact of our systems of production and consumption, which reinforce/compound these challenges. The course will also introduce students to effective academic reading and writing techniques, seeking to formalise strategies to use throughout the Master’s programme.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

• Demonstrate an ability to describe the key principles of ecological systems, and the forces that influence stability and change in such systems;
• Demonstrate an ability to explain concepts and processes of relevance to environmental science and the anthropocene;
• Demonstrate an ability to describe the nature of, and the underlying root causes for, key sustainability challenges in terrestrial and aquatic ecosystems on a global, regional and local scale;
• Demonstrate an ability to describe anthropogenic impacts from a variety of consumption and production domains.

Competences and skills
For a passing grade the student must

• Demonstrate an ability to critically analyse and evaluate academic (and related) texts, with a focus on deconstructing and assessing the author’s argumentation (e.g. claim, evidence, credibility);
• Demonstrate an ability to author a brief literature review (using a synthesis matrix) of academic articles relating to a specific topic of relevance, with appropriate academic referencing and technique;
• Demonstrate an ability to evaluate the work of peers, specifically regarding argumentation, by formulating effective peer review, both written and verbal.
• Demonstrate an ability to plan and execute course assignments within given time limits, using relevant methods for completing the assignment.
Judgement and approach

For a passing grade the student must

• Demonstrate an ability to reflect upon the relevance, including possibilities and limitations, of environmental science research as input for political / corporate / individual decision-making.

Contents

The course consists of lectures, seminars, brief learning assignments, a course-project, and a final written exam. Lectures seek to present fundamental knowledge (e.g. concepts of ecological systems, ecosystem services, planetary boundaries, natural capital and ecological resilience, principles of species interactions, fundamentals of nutrient cycles and laws of thermodynamics, processes underlying climate change, air and water pollution, soil contamination, and biodiversity loss). Seminars seek to facilitate students’ understanding of these fundamental ecological processes by asking students to reflect on humans’ impact on the environment and the forces that influence stability and change in systems, introducing positive- and negative- feedback loops. Special attention is given to the impacts of current systems of consumption and production, which will be the focus of the learning assignments. In addition, a course-long project asks students, in groups, to select an environmental challenge to investigate. Students shall define the context in which they wish to investigate, conduct a literature review using a synthesis matrix, formulate a claim/argument backed by secondary scientific evidence, and present their work both in writing and orally, following appropriate academic writing standards and technique.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: The course is assessed on the basis of in-class learning activities (10%), learning assignments (10%), a literature review and an oral presentation conducted in groups (40%), and a final written examination (40%).

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

Admission requirements:

• Students should have been admitted to the MSc Programme in Environmental Management and Policy

The number of participants is limited to: No
The course overlaps following course/s: IMEN09

Reading list

• According to a literature list that will be available at the latest eight weeks before start of the course on the course web page.

Contact and other information

Course coordinator: Steven Curtis, steven.curtis@iiiee.lu.se
Course coordinator: Sofie Sandin, sofie.sandin@iiiee.lu.se
Course homepage: http://www.iiiee.lu.se/education/emp/curriculum