

Visualizing Sustainability Challenges and Pathways

Visualisering av utmaningar och möjligheter för hållbar utveckling

7.5 credits

Single subject and programme course

746A88

Valid from: 2021 Autumn semester

Determined by	Main field of study	
Course and Programme Syllabus Board at the Faculty of Arts and Sciences	Environmental Science	
Date determined	Course level	Progressive specialisation
2020-11-04	Second cycle	A1F
Revised by	Disciplinary domain	
	Natural sciences	
Revision date	Subject group	
	Environmental Science	
Offered first time	Offered for the last time	
Autumn semester 2021	Autumn semester 2024	
Department	Replaced by	
Institutionen för Tema	746A82	

Course offered for

- Master's Programme in Science for Sustainable Development
- Master's Programme in Strategic Urban and Regional Planning

Entry requirements

- Bachelor's degree equivalent to a Swedish Kandidatexamen in one of the following areas:
 - natural sciences,
 - social sciences,
 - humanities or
 - engineering
- 15 ECTS credits passed in environmental sciences, sustainable development, or equivalent
- 45 ECTS credits from the Master's Programme in Sustainable Development
- English corresponding to the level of English in Swedish upper secondary education (Engelska 6)
Exemption from Swedish

Intended learning outcomes

After completion of the course, the student should be able to:

- describe and apply basic visualization concepts
- critically review and analyze visualization tools and techniques for sustainability communication and decision making
- analyze geospatial data and present results orally and in text
- develop visual representations, with focus on data management, graphic representations and narratives, as well as present results orally and in text

Course content

The course handles basic knowledge in geographic and information visualization and includes collection, handling, and processing of data, as well as development of visual representations for different user groups. The focus of the course is on visualization in the field of sustainable development with emphasis on science communication, decision support and analytical tools. The course specifically discusses representation and analysis of sustainability aspects including linkages in-between aspects, visual communication, and the role of visualization for planning and decision support

Teaching and working methods

Teaching and working methods include lectures, seminars, laboratory activities, and individual written assignments. In addition, students undertake self-studies.

Examination language: English

Examination

The course is examined through:

- individual written assignments. Grading scale: EC
- active participation in seminars and laboratory activities. Grading scale: Pass/Fail
- oral presentation of final assignment. Grading scale: Pass/Fail

Principals for final grading:

- The course grade will only be determined when the student has completed all compulsory components.
- For a final passing grade (E) on the course, at least a Pass/E is required for all compulsory components.
- Higher final grades will be based on the individual written assignments.

Detailed information on the examinations can be found in the course handbook.

If special circumstances prevail, and if it is possible with consideration of the nature of the compulsory component, the examiner may decide to replace the compulsory component with another equivalent component.

If the LiU coordinator for students with disabilities has granted a student the right to an adapted examination for a written examination in an examination hall, the student has the right to it.

If the coordinator has recommended for the student an adapted examination or alternative form of examination, the examiner may grant this if the examiner assesses that it is possible, based on consideration of the course objectives.

An examiner may also decide that an adapted examination or alternative form of examination if the examiner assessed that special circumstances prevail, and the examiner assesses that it is possible while maintaining the objectives of the course.

Students failing an exam covering either the entire course or part of the course twice are entitled to have a new examiner appointed for the reexamination.

Students who have passed an examination may not retake it in order to improve their grades.

Grades

ECTS, EC

Other information

Planning and implementation of a course must take its starting point in the wording of the syllabus. The course evaluation included in each course must therefore take up the question how well the course agrees with the syllabus.

The course is conducted in such a way that there are equal opportunities with regard to sex, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation and age.

If special circumstances prevail, the vice-chancellor may in a special decision specify the preconditions for temporary deviations from this course syllabus, and delegate the right to take such decisions.

About teaching and examination language

The teaching language is presented in the Overview tab for each course. The examination language relates to the teaching language as follows:

- If teaching language is “Swedish”, the course as a whole could be given in Swedish, or partly, or as a whole, in English. Examination language is Swedish, but parts of the examination can be in English.
- If teaching language is “English”, the course as a whole is taught in English. Examination language is English.
- If teaching language is “Swedish/English”, the course as a whole will be taught in English if students without prior knowledge of the Swedish language participate. Examination language is Swedish or English depending on teaching language.