Faculty of Social Sciences

MEST04, Mitigation - Technologies, Controversies and Opportunities, 7.5 credits

Åtgärder för klimatförändringar - teknologier, kontroverser och möjligheter, 7,5 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by The Board of the Lund University Centre for Sustainability Studies on 2024-05-31 (STYR2024/1440). The syllabus comes into effect 2024-10-14 and is valid from the spring semester 2026.

General information

The course is a second term compulsory course within Lund University Master's Programme in Climate Change and Society (LUCAS), 120 credits.

Language of instruction: English

Main field of study	*Specialisation*
Environmental Studies and Sustainability Science	A1F, Second cycle, has second-cycle course/s as entry requirements

Learning outcomes

Upon the completion of the course, the student shall

Knowledge and understanding

- Demonstrate extensive knowledge about and understanding of the opportunities and challenges of measures to tackle climate change, in particular their social, economic and political dimensions from an interdisciplinary perspective
- Reflect critically on and explain the most important approaches to limiting climate change and how these mirror various social visions, ideas and interests.

Competence and skills

- Demonstrate the ability to apply concepts from the social sciences and humanities systematically and in a relevant manner to measures that have been implemented to limit climate change in different social and geographical contexts
- Demonstrate the ability, individually and in groups, to read, summarise and discuss academic literature, navigate and contextualise different social perspectives on measures to limit climate change, and reflect orally on and synthesise interdisplinary knowledge on the climate.

Judgement and approach

- Demonstrate a critical and scientifically-grounded approach to ongoing debates about measures to tackle climate change
- Explain different ways of thinking about and understanding measures to tackle climate change and the tensions, conflicts and disagreements between them
- Identify opportunities for fair and effective climate solutions in both professional and private contexts.

Course content

The course covers specific methods, techniques and debates around measures designed to mitigate climate change. It familiarises the student with technical, social and governance processes to implement, among others, large-scale renewable energy technologies, low-carbon industrial processes, methods for carbon capture and removal, and demand-side solutions. The course provides students with an overview of current policies and initiatives to limit climate change and highlights the promises and pitfalls that already exist or may arise in the future. As part of the course, students are introduced to theoretical perspectives that attempt to explain resistance to, and delays in, emission reduction, as well as reasons why some emission reduction solutions are favoured over others. The course actively applies and exemplifies concepts introduced earlier in the programme, such as social practice theory, ecomodernism/technological optimism, issues of socioeconomic inertia, environmental justice and future-oriented policies.

The course is structured around four parts that build on each other:

1. The basics of climate change mitigation, introducing the scientific and political history of climate change mitigation
2. The politics of social and technological change, in which students are introduced to the full range of specific policy options, their opportunities and challenges
3. Governance of mitigation measures, in which initiatives are set in the context of wider societal debates and issues of environmental justice and sustainability
4. Controversial measures, focused on contentious alternatives to conventional mitigation, including carbon removal and geoengineering.

Throughout the course, there is a strong emphasis on case studies from different sectors and both the global North and South to illustrate and contextualise contemporary mitigation policies.

Course design

Teaching takes the form of a combination of lectures, seminars, excursions and student-led activities.

Assessment

Course assessment is based on two examinations:

- Oral group exam (2,5 credits)
- Oral individual exam (5 credits)

The course includes opportunities for assessment at a first examination, a re-sit close to the first examination and a second re-sit for courses that have ended during that school year. Two further re-examinations on the same course content are offered within a year of the end of the course. After this, further re-examination opportunities are offered but in accordance with the current course syllabus. A student who has taken two examinations in a course or a part of a course without obtaining a pass grade is entitled to the nomination of another examiner unless there are special reasons to the contrary.

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.

Grades

Grading scale includes the grades: Fail, Three, Four, Five

At the start of the course, students are informed about the learning outcomes stated in the syllabus and the grading scale and how it is applied on the course.

Overall course grade:

The grade for the entire course consists of the average grade of the two exams that are assessed according to the Fail-5-4-3 grading scale. The oral group exam is worth 30% of the final grade. The oral individual exam is worth 70% of the final grade. For a grade of 3 on the entire course the student must have been awarded at least 3 on all graded exams.

Exam	Credits	Grades	Part of final grade for the course
Oral group exam	2,5	Fail-3-4-5	30%
Oral individual exam	5	Fail-3-4-5	70%
	7,5		

Example: The student got the grade of 3 on the oral group exam and the grade of 5 on the oral individual exam. The final grade is 4 ((3*30)+(5*70))/100=4,4 < 4.5 is rounded down and 4.5 > is rounded up.

Entry requirements

To be admitted to the course, the student must have fulfilled course requirements of at least 7,5 higher education credits in the Master's Programme in Climate Change and Society (LUCAS).

A good command of spoken and written English, equivalent to English 6/B (advanced) proficiency in the Swedish secondary system, is required. Equivalent assessments will be made according to national guidelines.