LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Klimatsmart riskreducering
Climate Smart Risk Reduction

VRSN15, 7,5 credits, A (Second Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED BI/RH
Date of Decision: 2023-04-12

General Information

Main field: Disaster Risk Management and Climate Change Adaptation.
Compulsory for: MKAT1
Elective for: RH4, R4
Language of instruction: The course will be given in English

Aim

- Provide the students with understanding, knowledge and skills of the nexus between disaster risk reduction and climate change adaptation on organisational, institutional and societal levels across sectors as well gender and ethical issues.
- Provide a foundation for students interested in the links between research in adaptation and risk reduction and that of policy and application.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- Demonstrate knowledge and understanding of the similarities and differences between risk reduction and adaptation (scale and temporal intervention).
- Demonstrate understanding of key elements for convergence and integration of CCA and DRR across sectors and for a national development agenda and plans.

Competences and skills
For a passing grade the student must

- Demonstrate the ability to frame and articulate climate change adaptation as a “wicked problem”.

- Demonstrate the ability to assess risk reduction needs and adaptation requirements (common barriers and challenges as well as opportunities) in order to provide development guidance, recommendations and best practise in “planning for uncertainty”.
- Demonstrate the ability to review adaptation plans of action for sustainable development, examine and scrutinise case studies of successful and unsuccessful examples of disaster and climate resilient development.
- Demonstrate the ability to work constructively in a team and communicate effectively with people from various disciplines.

Judgement and approach
For a passing grade the student must

- Demonstrate the ability to reflect upon ones approach to and role in climate change adaptation as well as insight into the possibilities and limitations of integrating CCA and DRR.
- Demonstrate the ability to reflect on institutional, societal, gender and ethical issues concerning climate change adaptation and risk reduction.

Contents

Disaster risk reduction (DRR) is seen by many as a means not only to reduce the continued pressure on humanitarian expenditure but also to protect development investment made by the international community and national governments as well as the effects that disasters have on families, communities and countries. This is an essential element in achieving sustainable development through managing risk and thereby confronting the root causes of poverty and vulnerability. Climate change is seen as eroding livelihoods and economic bases, along with social change, and being the cause of the shifting frequency and intensity of certain hazards, such as extreme weather systems, heavy rainfall, droughts, sea level rise, and floods, with direct implications for disaster risk. If development planning fails to integrate DRR and CCA it also fails to recognise that such integration is the only insurance policy to development investment.

However, there seems to be a prevailing confusion between what is climate adaptation and what is disaster risk reduction; which one is part of the other; are they two distinct processes dealing with different issues or should they be integrated; does climate add a multiplier and an amplifier effect to disasters or does it work on a different scale; and a whole list of questions that dominate the discourse. The course is designed with particular focus on critical thinking in relation to where climate change adaptation and disaster risk reduction converge and diverge and the pathways of linkages between the two in development planning and application. The course is structured in progressive modules or blocks with lectures and seminars in each designed to introduce central concepts, questions and challenges to integrating DRR and CCA for sustainable development. The seminars follow case studies from countries with different conditions and are based on literature, movies and specific questions for reflection and debate.

To carry out an assessment of the impact of climate change and extreme events on societal safety and resilience.
During the course, the students shall report on their progress on the individual and group assignment upon which the course is assessed.

Home assignments are in the form of reading in preparation for the weekly seminars. The objective is to learn to use climate and risk information in qualitative assessment of impact on economic sectors or social vulnerability. Working in a group, the students will draw up an articulated case of vulnerability to climate change and disasters and viable methods of adaptation

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: The course is comprised of several learning activities including lectures, literature and case study seminars, group discussions, in-class exercises and an individual assignment/paper. For a passing grade the student must: (a) have an overall passing mark on the individual assignment; (b) have an overall pass on combined group work; and (c) have participated in the mandatory sessions. Students who fail a test have the right to a re-examination. An opportunity for re-examination will be offered at the end of the course.

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.

Parts
Code: 0118. **Name:** Individual Assignment.
Credits: 5. **Grading scale:** TH. **Assessment:** Individual Paper **Contents:** A 2,500-3,000 words article on a topic/questions negotiated with and approved by the course coordinator and written following peer reviewed journal articles standards.
Code: 0218. **Name:** Group Assignment.
Credits: 2,5. **Grading scale:** UG. **Assessment:** Group assignment **Contents:** Working in groups of 4, each group will produce a high quality poster depicting the complexity of the pathways to integrating disaster risk reduction and climate change adaptation into development planning – i.e. climate smart risk reduction or climate smart development.

Admission

Admission requirements:

- Admitted to the Master's Programme in Disaster Risk Management and Climate Change Adaptation or to the Master's Programme in Engineering, Risk Management and Safety Engineering or FMIF05 Environmental Management and FRTF10 Systems Engineering

The number of participants is limited to: 40
Selection: Completed university credits within the program. Within programs where the course is given as a compulsory course students are guaranteed admission. Thereafter priority is given to students enrolled in programs that include the course in the curriculum.

Reading list

- Bankoff, G.; Frerks, G.; and Hilhorst, D (eds): Mapping Vulnerability. Disaters, Development and People. Earthscan, 2004.
- Dow, K. And Downing, T.: The Atlas of Climate Change, Mapping the World’s Greatest Challenge. Earthscan, 2011.

- Leary, N.; Adejuwon, J.; Barros, V.; Burton, I; Kulkarni, J and Lasco, R. (eds): Climate Change and Adaptation, Earthscan. Earthscan, 2009.
- Shaw, R.; Pulhin, J. and Pereira, J.: Climate Change Adaptation and Disaster Risk Reduction: Issues and Challenges. Emerald Group Publishing, 2010.
- Tanner, T. And Horn-Phathanothai, L.: Climate Change and Development. Routledge, 2014.
- UNISDR: Climate Change and Disaster Risk Reduction, Briefing Note 01. UN, 2008.
- Walker, P; Glasser, J. and Kambli, S.: Climate Change as a Driver of Humanitarian Crises and Response. Tufts University, 2012.

Contact and other information

Course coordinator: Mo Hamza, mo.hamza@risk.lth.se
Course administrator: Linnéa Ekman, linnea.ekman@ebd.lth.se

Further information: Active participation in group work is mandatory. Each group member must be able to present and answer for the contents of the joint report. A student who does not meet the demands of active participation, or disregard their obligations, can be replaced to another group or failed by the examiner.