

Hessen: ISU Course Outline

ADAPTION STRATEGIES TO CLIMATE CHANGE

CLASS HOURS: 20+tutorial

Lectures	9x2 hours (credited)
Tutorial	2x2 hours (not credited)
Field Trip / field test	2x1 hours (credited)

PROFESSOR (Academic Director)

Prof. Dr. Stephan Theobald

- Office: Kurt-Wolters-Straße 3; D-34125 Kassel - Office hours: by appointment
- Email: s.theobald@uni-kassel.de - Phone: +49 561 804-2679

Lecturers:

Dr. Karl-Heinz Simon is Director of the Center for Environmental Systems Research,
University of Kassel

Rüdiger Schaldach is Dr. habil and supervisor of the GRID-Land Group at the Center for Environmental Systems Research

Dr.-Ing. Martina Flörke is supervisor of the GRID Water Group at the Center for Environmental Systems Research

Prof. Dr. Helmut Holzapfel is Professor for Traffic Planning and Mobility at the University of Kassel

Prof. (emeritus) Dr. Lutz Katzschner / Dipl.-Ing. René Burghardt are working for the Department of Meteorology at the faculty for Urban Planning of the University of Kassel

Prof. Dr. Michael Hiete is Professor for Industrial Ecology and Technological Change at the University of Kassel

Prof. Dr. Anton Maas is Head of the Department of Building Physics at the University of Kassel

Prof. Dr. Johannes Eichhorn is Head of the Division of the Environmental Monitoring at the Research Station for Forestry in northwest Germany (Nordwestdeutsche Forstliche Versuchsanstalt)

Prof. Dr. Franz-Berndt Frechen is Professor for Sanitary Environmental Engineering and Dean of the Faculty of Civil and Environmental Engineering

1) INFORMATION ON THE COURSE CONTENT

COURSE DESCRIPTION

Adaptation to the consequences of climate change, such as extreme weather conditions and changing rainfall distribution is one of the major challenges facing science and technology. Climate projections indicate a number of challenges we have to confront. This course is intended to provide an overview of adaptation requirements, especially in areas of importance for business and society which stand to be affected by climate change. In particular, the commercial sectors of tourism and health, transport and energy technologies, not to mention agriculture, forestry, and water management, are of major significance.

Problems posed by climate change, with specific reference to the region of North Hesse, will be examined in order to develop and implement possible strategies of adaptation.

LEARNING OBJECTIVES

The interdisciplinary seminar is built around a series of lectures concerned with climate change adaptation strategies, delivered by professors from diverse disciplines. Students learn from and are inspired by leading academics working at the forefront of their fields.

All lectures are additionally attended by tutors who supervise the students throughout the series. They also accompany the students on field trips and help them prepare for the final exam.

COURSE MATERIALS

Introductory recommendation before the course starts: *The Global Status Report REN21-Renewable Energy Policy Network for the 21st century*:

<http://www.ren21.net/ren21activities/globalstatusreport.aspx>

- All further material will be given during the course.

TENTATIVE CLASS SCHEDULE

Day	Topic	Structure and Assignment given	Assignment due	Lectures
1	Climate Projections and Scenarios	Presentation Discussion Recommendations for post-course work to reinforce understanding	Post-course work on the basis of course materials Preparation for the next session using material distributed beforehand	Dr. Karl-Heinz Simon
2	Land Use and Climate Change		Post-course work Preparation for next session	Dr. habil. Rüdiger Schaldach
3	Global Water Management	Presentation Discussion Post-course work recommendations	Post-course work Preparation for next session	Dr.-Ing. Martina Flörke
4	Mobility, Climate Change and Adaption Strategies	Presentation Discussion Post-course work recommendations	Post-course work Preparation for next session	Prof. Dr. Helmut Holzapfel
5	Urban Climate and Urban Planning	Presentation Discussion Post-course work recommendations	Post-course work Preparation for next session	Prof. Dr. Lutz Katzschner / Dipl.-Ing. René Burghardt
6	Field Trip: Bad Hersfeld, Eichhof (pilot plant for renewable primary products and biomass)	Field trip	Preparation for next session	Experts on site
7	Climate change - implications for industry	Presentation Discussion Post-course work recommendations	Post-course work Preparation for next session	Prof. Dr. Michael Hiete
8	Building Physics and Thermal Comfort in Buildings	Presentation Discussion Post-course work recommendations	Post-course work Preparation for next session	Prof. Dr. Anton Maas
9	Forestry and Climate Change	Presentation Discussion Post-course work recommendations	Post-course work Preparation for next session	Prof. Dr. Johannes Eichhorn
10	Water Supply and Water Reuse	Presentation Discussion	Post-course work Preparation for next	Prof. Dr. Franz-

/Advanced Wastewater Treatment + Field Trip: Portable Aqua Unit for Lifesaving (University of Kassel - field test)	Post-course work recommendations	session	Berndt Frechen
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2) INFORMATION ON CLASS PARTICIPATION, ASSIGNMENTS AND EXAMS

ASSIGNMENTS

- Active participation in discussions and presentations, independent study

EXAMS

- Written exam

PROFESSIONALISM & CLASS PARTICIPATION

- Regular attendance in lectures and field trips

MISSED CLASSES

No more than 10% of the contact hours can be missed for successful completion of the class.

3) INFORMATION ON GRADING AND ECTS

ACADEMIC STANDARDS

Upon successful completion, 3 ECTS will be awarded for the class.

According to the rules of ECTS, one credit is equivalent to 25-30 hours student workload.

GRADING SCALE:

<i>Grade</i>		<i>Description</i>
<i>15 points</i>	<i>1.0</i>	<i>very good: an outstanding achievement</i>
<i>14 points</i>		
<i>13 points</i>	<i>1.3</i>	
<i>12 points</i>	<i>1.7</i>	<i>good: an achievement substantially above average requirements</i>
<i>11 points</i>	<i>2.0</i>	

10 points	2.3	
9 points	2.7	<i>satisfactory: an achievement which corresponds to average requirements</i>
8 points	3.0	
7 points	3.3	
6 points	3.7	<i>sufficient: an achievement which barely meets the requirements</i>
5 points	4.0	
4 points	5.0	<i>not sufficient / failed: an achievement which does not meet the requirements</i>
3 points		
2 points		
1 point		
0 points		

This course description was issued on: January 22, 2015. Program is subject to change.