

Module Card

Master Resource Efficiency in
Architecture and Planning
HCU Hamburg

Module Number	Module Name	Type (C/CE/E)	Semester (proposed)	Module Coordinator
REAP-M-Mod-301	Climate Responsive Architecture and Planning	CE	3.	Prof. Dr. Udo Dietrich

Subject Area	Duration
Resources, Technologies and Environment	1 semester

CP (according to ECTS)	Contact Hours/Week (SWS)	Self-study
5 CP (= 150 h workload)	3 (= 31,5 h contact time)	118,5 h

Objectives and Contents

Objective of Qualification (competencies)
<ul style="list-style-type: none"> Potential to reach Zero-Energy-Situations in the different main climates zones. Knowledge of interdependencies between buildings, their arrangement in urban space, energy demand, comfort and user behaviour.

Contents
<ul style="list-style-type: none"> Comfort criteria (specially thermal in summer and visual). Passive-solar optimization of buildings, passive cooling methods and their application to different climatic locations. Low-energy planning strategies for urban quarters and buildings. Urban design requirements for climate-responsive energy applications. Urban buildings as energy generators. Vernacular architecture and best practice examples as sources for climate responsive building design. Building user behaviour and its impact on energy performance of buildings and the sustainability of urban environments. Tools for the assessment of climate and derivation of design rules.

Recommended Literature
<ul style="list-style-type: none"> Special script for this course David Mackay: Without the hot air, www.withouthotair.com

Teaching and Learning Methods
Lecture (complemented by seminar discussions, individual student inputs for specific subjects), Plenum Students work in groups, each group deals with another climate / location. , excursions occasionally

Exam(s)	
Precondition of Examination	
regular participation – obligatory 9 of 11 seminars successful completion of student report and oral presentation	
Type of Examination	Duration of Examination (if written or oral exam)
Term paper (S), presentation (R), as a sequence of short oral presentations and printed summaries.	
Composition of Module Mark	
S, R = 100%	

Additional Information
Previous Knowledge / Conditions for Participation (in form and content)
Recommended: Successful completion of the module REAP-M-Mod-101 and REAP-M-Mod-202 is required. (in form)
Applicability of Module
Students have to select 2 modules of the block "Resources, Technologies and Environment" to attend REAP-M-Mod-309 Project III.
Frequency of Offering
Each Winterterm
Course Language
English
Valid from: WS 15/16
Update: 08.03.17