## Module Card

**Master Resource Efficiency in Architecture and Planning**  
**HCU Hamburg**

<table>
<thead>
<tr>
<th>Module Number</th>
<th>Module Name</th>
<th>Type (C/CE/E)</th>
<th>Semester (proposed)</th>
<th>Module Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAP-M-Mod-301</td>
<td>Climate Responsive Architecture and Planning</td>
<td>CE</td>
<td>3</td>
<td>Prof. Dr. Udo Dietrich</td>
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</tbody>
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### Subject Area
- Resources, Technologies and Environment

### Duration
- 1 semester

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<tr>
<th>CP (according to ECTS)</th>
<th>Contact Hours/Week (SWS)</th>
<th>Self-study</th>
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<tr>
<td>5 CP (= 150 h workload)</td>
<td>3 (= 31.5 h contact time)</td>
<td>118.5 h</td>
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### Objectives and Contents

#### Objective of Qualification (competencies)
- 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
- 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
- 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). Students work in groups, each group deals with another climate / location.

### Exam(s)

#### Precondition of Examination
- regular participation – obligatory 9 of 11 seminars  
- successful completion of student report and oral presentation

#### Type of Examination
- semester work (S) comprising report (R), as a sequence of short oral presentations and printed summaries.

#### Duration of Examination (if written or oral exam)
- Three short presentations contribute with 1/3 each to the grade.

### 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

Update: 30.09.16