# 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>
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<tbody>
<tr>
<td>REAP-M-Mod-201</td>
<td>Urban Material Cycles</td>
<td>C</td>
<td>2.</td>
<td>Prof. Dr. Wolfgang Willkomm</td>
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<thead>
<tr>
<th>Subject Area</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Fundamentals and Methods</td>
<td>1 semester</td>
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<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)
- Survey of the basic strategies for sustainable urban material cycles.
- Competence of perception, assessment and decision making in the field of selection of material related urban and building planning procedures.

### Contents
- Introduction into lifecycles, quantities and qualities of urban waste materials, data of waste material quantities and qualities, future development prognosis and scenarios.
- Typology of materials incl. construction and demolition waste, industrial production waste and communal waste.
- Strategies of prevention, reduction and recycling of waste by means of political decision, planning, organization and technology as well as priority order of product recycling, material recycling with recycling, re-recycling and downcycling.
- Reciprocal effects of design, construction, material and energy strategical targets for optimized solutions on the national, regional, urban, building and detailed scale.
- Examples for projects and strategies.

### Recommended Literature

### Teaching and Learning Methods
- Lecture complemented by individual student inputs for specific subjects and project visits.

### Exam(s)
- **Precondition of Examination**
  - Regular participation, individual oral input, successful completion of student report and oral presentation

### Composition of Module Mark
- Poster 25 %, Presentation 25 %, final Report 50%

### Additional Information
- **Previous Knowledge / Conditions for Participation (in form and content)**
  - Basic understanding of the physics of building construction and demolition, industrial and municipal waste materials. (content)
  - Basic understanding of regional, urban and building construction planning procedures (content)

- **Applicability of Module**
  - The successful completion of this module is required for the attendance of the module REAP-M-Mod-204 Project II.

- **Summerterm**
- **Course Language**
  - English

*Update: 30.09.16*