Module Description

Module name
Development Planning and Governance

<table>
<thead>
<tr>
<th>Module Nr.</th>
<th>Credit Points</th>
<th>Hours</th>
<th>Independent Learning</th>
<th>Duration</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-EX-J005</td>
<td>6 CP</td>
<td>180 h</td>
<td>90 h</td>
<td>4 weeks</td>
<td>Winter</td>
</tr>
</tbody>
</table>

Language
English
Instructor/s
Dr. Nguyen Hieu

1 | Course of Module

<table>
<thead>
<tr>
<th>Course Nr.</th>
<th>Course Title</th>
<th>CP</th>
<th>Forms of instruction</th>
<th>SWS/Contact hours (45 min) per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Development Planning and Governance</td>
<td>6</td>
<td>Seminar</td>
<td>6</td>
</tr>
</tbody>
</table>

2 | Study Content

Supporting target groups with the understandings & awareness of legal and institutional framework to govern urban development processes with engagement of different stakeholders in modern democratic society. The discussions will unveil how State, communities, and developer to exercise their powers in addressing the conflict of interests. Students will apply negotiation and mediation skills to navigate through different issues in a case study extracted from reality. Students will discuss following questions:

- How to differentiate government models and how government and politics work in a democratic/pluralist society?
- How to position Vietnamese system amongst typologies of government systems and their reforms?
- What makes the essence of local government and metropolitan governance in Vietnam development's context?
- What are the influence of (local) governance in planning and development?
- How Interest are mediated via government processes on development activities?
- How to analyse stakeholders in development games, including mapping out stakeholders and analyse their interests in real development issue?
- What are the basics to prepare the negotiation to settle disputes, including to prepare, negotiate, and close a deal in real development issue?
- Which calculations are needed to facilitate a deal, including prepare, facilitate, and finalise a mediation case?
- What are the meaning of humanity approach to development from government perspective?
- What are the ethics of mediator and negotiator in building consensus?
- How to develop active listening, effective communication, and making strategies adapting to context?
### Learning Outcomes
At the end of the course, students are able to:
- Differentiate the models of governments and position Vietnam's model amongst major typologies to govern development, especially Germany;
- Understand the substance of government in coordinating development activities in local level that links to Vietnam development context;
- Understand the influence of government & governance in planning, development;
- Navigate the development processes among the stakeholders to address basic development issues: building consensus using negotiation and mediation skills.

### Requirements for participation
Vietnamese Laws of property and planning and Planning Instruments.

### Test method
Written (120 minutes, open book) or oral exam (20 minutes), group work project, home exercises

### Conditions for Assessment
Successful attendance at 80% of seminar, accept home exercises, develop group work project, pass the final exam.

### Grading
50% for exam, 25% for group work project, 25% for home exercises.

### Application
M.Sc. SUD at VGU

### Literature
- Anwar Shah (Editor). Local Governance in Industrial Countries, 2006.
- Hubert Heinelt and Nikolaos Hlepas. Typologies of Local Government Systems.

### Module Description

**Module name**
Ecological Management in Urban Development

<table>
<thead>
<tr>
<th>Module Nr.</th>
<th>Credit Points</th>
<th>Hours</th>
<th>Independent Learning</th>
<th>Duration</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 CP</td>
<td>180 h</td>
<td>90 h</td>
<td>4 weeks</td>
<td>Winter</td>
</tr>
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</table>

Language
english

Instructor/s
Dr. Huong (VGU)
1 **Course of Module**

<table>
<thead>
<tr>
<th>Course Nr.</th>
<th>Course Title</th>
<th>CP</th>
<th>Forms of instruction</th>
<th>SWS/Contact hours (45 min) per week</th>
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<tbody>
<tr>
<td></td>
<td>Ecological Management in Urban Development</td>
<td>6</td>
<td>Seminar.</td>
<td>6</td>
</tr>
</tbody>
</table>

2 **Study Content**
The module aims to provide the students a wide range of knowledge on the ecological system and its relation to the city development. Further how to manage it in the context of urban complexities and dynamics. These include:

- Urban ecological system (concept, components and its services);
- Urban ecology concept, determinants, and methods;
- Matters of shrinking and growing cities in relation to the eco-system.

In addition, in responding to the environmental problems, which have become more serious in developing countries creating higher burdens on the urban eco-system, several agendas/actions and methods have been set up with the involvement or participation of different stakeholders. The module contents regarding this matter include:

- Environmental issues and management agendas;
- Urban green and its particular importance; and
- Sustainable Urban Development towards Eco-cities

More importantly, the matter of Urban Heat Island (UHI) integrates the module’s contents and the students will study about the urban climatic city in relation to the urban structure and architecture. Besides, as climate change is growing to become a very critical issue all over the world, the module also makes the students to understand the mutual impacts and relationship between the cities and climate change matters. The knowledge includes on mitigation measures, adaptation measures, how to make the cities become more resilient to the impacts of climate change as well as to certain types of disaster in relation to the disturbance of eco-system.

3 **Learning Outcomes**
The course will equip the students with the skills and knowledge required for the management of ecological system in the context of urban development. The students will be able to understand the importance and complexities of urban ecology and its related matters towards sustainable development. The course will also enable the students to understand the basics of urban climate, the problems of climate change in relation to urban development, and the ways forward for dealing with these.

4 **Requirements for participation**

- 

5 **Test method**
Written exam (120 minutes), course work and written assignment.

6 **Conditions for Assessment**
Coursework, written assignment, pass exam
Recommendation: Successful attendance at seminar.
Grading
70% for exam, 20% for written assignment, and 10% for course work (in-class assignment).

Application
M.Sc. SUD at VGU

Literature
World Bank (2011) Guide to Climate Change Adaptation in Cities

Comments
Dr. Huong offers the module at VGU in the 3rd semester of the study program.

Module Description

<table>
<thead>
<tr>
<th>Modul name</th>
<th>English Scientific Writing</th>
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<td>Self-study</td>
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<tr>
<td>Duration</td>
<td>1 Semester</td>
</tr>
<tr>
<td>Frequency</td>
<td>Every semester</td>
</tr>
<tr>
<td>Language of instruction</td>
<td>Englisch</td>
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<tr>
<td>Person responsible for the module</td>
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<table>
<thead>
<tr>
<th>Courses of the module</th>
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<tbody>
<tr>
<td>Course no.</td>
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<tr>
<td>41-21-0550-ku</td>
</tr>
<tr>
<td>2</td>
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<table>
<thead>
<tr>
<th>3</th>
<th><strong>Learning outcomes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The course aims to teach the fundamentals of effective scientific writing and presenting. The course will enable the students to write scientific papers and give scientific talks.</td>
</tr>
<tr>
<td></td>
<td>Students know the structure of a scientific manuscript. They can write effectively, concisely, and clearly.</td>
</tr>
<tr>
<td></td>
<td>They know how to organise an oral presentation and know how to present scientific contents in an appropriate, well structured, and well understandable way.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>4</th>
<th><strong>Requirements for participation</strong></th>
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<tbody>
<tr>
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<table>
<thead>
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<th><strong>Forms of examination</strong></th>
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<tr>
<td></td>
<td>Bausteinbegleitende Prüfung:</td>
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<tr>
<td></td>
<td>- [41-21-0550-ku] (Studienleistung, Sonderform, Dauer 90 min, Standard)</td>
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<td></td>
<td>Study Achievement: Portfolio / Presentation</td>
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<table>
<thead>
<tr>
<th>6</th>
<th><strong>Requirements on the award of credit points</strong></th>
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</thead>
<tbody>
<tr>
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<td>Passing the study achievement</td>
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<table>
<thead>
<tr>
<th>7</th>
<th><strong>Grading</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Bausteinbegleitende Prüfung:</td>
</tr>
<tr>
<td></td>
<td>- [41-21-0550-ku] (Studienleistung, Sonderform, Gewichtung: 100%)</td>
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</table>

| 8 | **Usability of the module** |

<table>
<thead>
<tr>
<th>9</th>
<th><strong>Literature</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Will be announced</td>
</tr>
</tbody>
</table>

| 10 | **Comment** |

**Module Description**

**Modul name**

*German Law of Property and Planning*
Module no. | Credit points | Workload | Self-study | Duration | Frequency
---|---|---|---|---|---
13-B2-J001 | 6 CP | 180 h | 120 h | 1 Semester | Every semester

Language of instruction: Englisch

Person responsible for the module: Prof. Dr. Hans-Joachim Linke

### Courses of the module

<table>
<thead>
<tr>
<th>Course no.</th>
<th>Course name</th>
<th>Workload (CP)</th>
<th>Form of instruction</th>
<th>Contact hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-B2-J001-se</td>
<td>German Law of Property and Planning</td>
<td>0</td>
<td>Seminar</td>
<td>4</td>
</tr>
</tbody>
</table>

### Study content

- Public and private law
- Proof of landownership
- Rights to land plots
- Leasehold and condominium ownership
- Sale contract for properties
- Rights of neighbours
- Tenancy and leasing law
- Administrativ law
- Planing and constructing law
- Instruments and principles of environmental law
- Protection of nature, landscape and soil
- Law of climate protection and environmental energy
- Protection from emissions and radiation
- Basics of Vietnamese law of property and planning

### Learning outcomes

The students are able to identify problems of planning, construction, landownership and environmental law and assign them to a legal area as well as to develop possible solutions.

### Requirements for participation

### Forms of examination

- Modulabschlussprüfung:
  - Modulprüfung (Studienleistung, Präsentation, Bestanden/Nicht bestanden)
  - Modulprüfung (Fachprüfung, Klausur, Dauer 90 min, Standard)

### Requirements on the award of credit points

- passed exam
- Recommendation: Successful attendance at lectures.

### Grading

- Modulabschlussprüfung:
  - Modulprüfung (Studienleistung, Präsentation, Gewichtung: 0)
  - Modulprüfung (Fachprüfung, Klausur, Gewichtung: 1)
Module Description

**Modul name**

<table>
<thead>
<tr>
<th>GIS and Applications to Urban Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Module no.</strong></td>
</tr>
<tr>
<td><strong>Credit points</strong></td>
</tr>
<tr>
<td><strong>Workload</strong></td>
</tr>
<tr>
<td><strong>Self-study</strong></td>
</tr>
<tr>
<td><strong>Duration</strong></td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
</tr>
</tbody>
</table>

**Language of instruction**

|Englisch|

**Person responsible for the module**

|Prof. Dr. Hans-Joachim Linke|

|**Courses of the module**|
|---|---|---|---|---|
|**Course no.**| 13-B2-J003-vl | 13-B2-J004-ue |
|**Course name**| Basics of GIS | Using GIS for Urban Analysis |
|**Workload (CP)**| 0 | 0 |
|**Form of instruction**| Vorlesung | Übung |
|**Contact hours**| 2 | 2 |

**Study content**

The objective of the module is to adopt GIS techniques to tasks of urban planning and analysis. The course teaches the structure of GIS and the practice-based handling of GIS-Software, using ESRI-products. Therefore, the students will be introduced to:

- Basic introduction and handling of GIS,
- Geospatial objects and information modelling: editing of vector and raster based geographic data,
- Spatial reference and spatial reference systems,
- Data capture from different sources, i.e. aerial images,
- Visualization and map design,
- Spatial analysis with GIS to understand urban development related issues (for example catchment analysis, overlaying, spatial analysis, network analysis, etc.),
- Understanding the potential of GIS for local, regional and global applications: from surveying, urban planning and environment to construction or transport.

### 3 Learning outcomes

The course aims for the basic skills in GIS, based on hands-on seminars. The students can adapt standard GIS workflows to further projects; they may support projects of urban development with GIS techniques from the beginning of data capturing, processing, analysing up to the visualization of the results at the final stage. They can also use GIS for more advanced tasks in urban development and planning such as spatial analysis, catchment area analysis, network analysis, overlaying, etc.

### 4 Requirements for participation

Basics of PC handling

### 5 Forms of examination

Modulabschlussprüfung:
- Modulprüfung (Fachprüfung, Klausur, Dauer 90 min, Standard)
- Modulprüfung (Studienleistung, Hausübungen, Arbeitsblätter, Bestanden/Nicht bestanden)

### 6 Requirements on the award of credit points

Pass exam, accept homework

### 7 Grading

Modulabschlussprüfung:
- Modulprüfung (Fachprüfung, Klausur, Gewichtung: 1)
- Modulprüfung (Studienleistung, Hausübungen, Arbeitsblätter, Gewichtung: 0)

### 8 Usability of the module

### 9 Literature


YouTube channels: [https://youtu.be/8SUzVoqUpA0](https://youtu.be/8SUzVoqUpA0)

### 10 Comment
Module Description

Modul name

Green Building Design II

<table>
<thead>
<tr>
<th>Module no.</th>
<th>Credit points</th>
<th>Workload</th>
<th>Self-study</th>
<th>Duration</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-D1-M008</td>
<td>6 CP</td>
<td>180 h</td>
<td>120 h</td>
<td>1 Semester</td>
<td>Every 2. semester</td>
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</table>

Language of instruction: Englisch

Person responsible for the module: Prof. Stefan Schäfer

1 Courses of the module

<table>
<thead>
<tr>
<th>Course no.</th>
<th>Course name</th>
<th>Workload (CP)</th>
<th>Form of instruction</th>
<th>Contact hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-D1-0017-vl</td>
<td>Green Building Design II</td>
<td>0</td>
<td>Vorlesung</td>
<td>2</td>
</tr>
<tr>
<td>13-D1-0018-ue</td>
<td>Green Building Design II - Exercise</td>
<td>0</td>
<td>Übung</td>
<td>2</td>
</tr>
</tbody>
</table>

2 Study content

Constructional topics, based on current building activities with an emphasis on self-developed concepts will be deeply processed in the form of a seminar. This includes targeted research questions about materials (e.g. steel, glass, and insulation) and technologies (e.g. air conditioning, energy supply and distribution, controlling of building envelopes). Selected examples of structures and own student projects relevant design principles are developed on the basis of selected building examples. With supervised student projects also outstanding, existing buildings and their construction are examined - also including classic historical buildings.

3 Learning outcomes

After the successful completion the course students will understand the relationship of the relevant solutions used in the construction industry for Green Building Design. They possess both technological and physical aspects. The students will have the ability to detect different solutions, to find out, to explain factual and understandable, to make decisions and to justify. The students will have the ability to work independently on subject-specific problems according to scientific principles.

4 Requirements for participation

It is recommended to attend the courses Basics of Building Construction - Part I or Building Construction.

5 Forms of examination

Modulabschlussprüfung:

- Modulprüfung (Fachprüfung, Sonderform, Dauer 15 min, Standard)
- Modulprüfung (Studienleistung, Hausübungen, Arbeitsblätter, Bestanden/Nicht bestanden)

Subject Examination: Report and Presentation (15 min.)
### Requirements on the award of credit points
Successful Participation in the Module Final Examination

### Grading
Modulabschlussprüfung:
- Modulprüfung (Fachprüfung, Sonderform, Gewichtung: 1)
- Modulprüfung (Studienleistung, Hausübungen, Arbeitsblätter, Gewichtung: 0)

### Usability of the module

### Literature
Script for the course Green Building Design as well as year-by-year readers on various specialist topics. For further literature recommendations see www.kgbauko.de

### Comment
Green Building Design II can be completed independently of the Green Building Design I module! Module offer in summer semester. It is strongly recommended to take all examinations (Sonderform and Hausübung) in the semester in which the module is offered.

## Module Description

### Modul name
**Infrastructure planning**

<table>
<thead>
<tr>
<th>Module no.</th>
<th>Credit points</th>
<th>Workload</th>
<th>Self-study</th>
<th>Duration</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-K4-M007</td>
<td>6 CP</td>
<td>180 h</td>
<td>120 h</td>
<td>1 Semester</td>
<td>Every 2. semester</td>
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### Language of instruction
Englisch

### Person responsible for the module
Prof. Dr. Hans-Joachim Linke

### Courses of the module

<table>
<thead>
<tr>
<th>Course no.</th>
<th>Course name</th>
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<th>Contact hours</th>
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<td>13-B2-J006-se</td>
<td>Economic Assessment Methods</td>
<td>0</td>
<td>Seminar</td>
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<tr>
<td>13-B2-J007-se</td>
<td>System of Infrastructure</td>
<td>0</td>
<td>Seminar</td>
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</table>

### Study content
The module consists of the lecture “System of Infrastructure” and “Economic Assessment Methods”.

“System of Infrastructure” gives insights into technical and social infrastructures, such as water supply, sewage disposal, electricity supply, waste disposal, transport facilities or educational facilities. The social and economic importance of infrastructures as well as current challenges of urban and rural development will be presented (e.g. demographical change, climate change). Characteristics of large-technical systems, in the practice used planning models and national as
well as EU-wide coordination of spatial planning interests on different levels are contents of the module. The interdependencies between infrastructure sectors, current changes of the infrastructure supply caused through technical innovations, liberalisation and privatisation processes as well as environmental modernisation are topics that will be examined by the students in the course. Next to that point, planning processes of infrastructure projects will be analysed, considering a requirement research, the implementation of political interests, the examination of the location, the feasibility study and the financing and refinancing of the project.

With a focus on valuation methods, the course “Economic Assessment Methods” provides students with the basics and the application of common economic evaluation methods that are needed for decision-makers of large infrastructure projects. Next to financial mathematical principles, the most used economical valuation methods as cost-benefit-analysis, value-benefit analysis and cost-effectiveness analysis will be presented in the lecture. The students also get to know property value and international methods of valuation like the asset value method, the discounted Cash flow and the residual value method. Next to these points, also economic valuation methods for environmental assets are content of the course. The course imparts basic knowledge of infrastructure project management and takes a look at application methods of agile management that are useful for construction projects.

### 3 Learning outcomes

The course provides students with a coherent understanding of infrastructure systems and the economic background.

The students have the knowledge to develop a financial and institutional system for a special type of infrastructure according to the local framework.

The students are able to locate special parts of an infrastructure system by using location study and feasibility study.

The module also provides students with a coherent understanding of economic assessment methods.

They students learn how to select and apply the economic valuation procedure that applies in individual cases.

The students have the competences to select and apply the ecological valuation procedure that applies in individual cases.

The students are able to value properties by using international methods of valuation.

### 4 Requirements for participation

Recommended: Basics of Spatial Planning

### 5 Forms of examination

Modulabschlussprüfung:

- Modulprüfung (Fachprüfung, Klausur, Dauer 120 min, Standard)
- Modulprüfung (Studienleistung, Hausübungen, Arbeitsblätter, Bestanden/Nicht bestanden)

### 6 Requirements on the award of credit points
<table>
<thead>
<tr>
<th>7</th>
<th><strong>Grading</strong></th>
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<tbody>
<tr>
<td>Modulabschlussprüfung:</td>
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<tr>
<td>• Modulprüfung (Fachprüfung, Klausur, Gewichtung: 1)</td>
<td></td>
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<tr>
<td>• Modulprüfung (Studienleistung, Hausübungen, Arbeitsblätter, Gewichtung: 0)</td>
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</table>

| 8 | **Usability of the module** |

<table>
<thead>
<tr>
<th>9</th>
<th><strong>Literature</strong></th>
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</thead>
<tbody>
<tr>
<td>Materials will be announced at the beginning of the lecture.</td>
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| 10 | **Comment** |

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**Module Description**

**Module name**

Masterthesis

<table>
<thead>
<tr>
<th>Module Nr.</th>
<th>Credit Points</th>
<th>Hours</th>
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<th>Duration</th>
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<td>720 h</td>
<td>700 h</td>
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<tbody>
<tr>
<td>english</td>
<td>Prof. TU Darmstadt and SUD senior lecturers</td>
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<table>
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<tr>
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<tbody>
<tr>
<td><strong>Course Nr.</strong></td>
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<table>
<thead>
<tr>
<th>2</th>
<th><strong>Study Content</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The aim of the thesis is to apply scientific methods and knowledge to specific problems encountered in practice and issues of sustainable urban development. The student has to decide between the introduced research methodologies by the study program, and by using them, what are the advantages and disadvantages of these methods.</td>
<td></td>
</tr>
</tbody>
</table>
### Learning Outcomes
Students acquire the
- ability to independently conduct scientific research and problem analysis,
- ability to identify and structure a research topic in a scientific environment,
- ability to independently plan, conduct and presentation of a research project

### Requirements for participation
A student can release the master thesis, if he/she has to pass only modules of totally 12 CP (meaning 2 modules of 6 CP each).

### Test method
Written thesis, presentation of the results of 20 minutes and discussion of the results of 20 minutes.

### Conditions for Assessment
Presentation of the results obtained in a mid-term revision, written thesis, presentation of the results (20 minutes), discussion of the results (20 minutes).

### Grading
80 % written result and 20 % presentation and discussion

### Application
MSc SUD at VGU or TUD

### Literature
Working schedule of Master-Thesis (developed by Prof. Linke and Dr. Son)

### Comments

### Module Description

<table>
<thead>
<tr>
<th>Module name</th>
<th>Instruments of Spatial Planning</th>
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<tbody>
<tr>
<td><strong>Module Nr.</strong></td>
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</tr>
<tr>
<td><strong>Credit Points</strong></td>
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<tr>
<td>6 CP</td>
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<tr>
<td><strong>Hours</strong></td>
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<tr>
<td>180 h</td>
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<td><strong>Independent Learning</strong></td>
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<td>90 h</td>
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<td><strong>Duration</strong></td>
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<td>4 weeks</td>
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<td><strong>Term</strong></td>
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<td><strong>Instructor/s</strong></td>
<td></td>
</tr>
<tr>
<td>Dr. Pham Thai Son (Part 1), Dr. Nguyen Ngoc Hieu (part 2)</td>
<td></td>
</tr>
</tbody>
</table>
### Study Content

- Spatial planning: definition of spatial planning, spatial planning and urban planning, purpose of spatial planning, basic elements of spatial planning
- System of spatial planning: case studies of Germany and Asian countries.
- Principles of Spatial Planning: key principles, principles of spatial planning in Germany.
- Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) in spatial planning.
- Site analysis in spatial planning: site planning, site selection and programming, site inventory and analysis, SWOT analysis.
- Overview of instruments for spatial planning: planning implementation strategies (Planning system and implementation, Regulatory approach, Collaborative approach)
- Administrative instruments: legally binding plan, other administrative instruments (Traffic Impact Assessment (TIA), relocation and compensation, development freeze, temporary development regulations)
- Seminar on ‘Advanced planning tools’: Adaptive Strategic Planning, Implementation Oriented Planning (MOTA Model)

### Learning Outcomes

The course will equip the students with the skills and knowledge required for the spatial planning of city and its neighbourhoods. They will become familiar with different planning methods and/or instruments, know how to assess and analyse the settlement structures with respect to ecological, socio-economic, and administrative dimensions. The students will also learn about the ecological, social and economic fundamentals of spatial planning as well as about the major constraints of sustainable urban development. In more specific, the learning objectives mainly include:

- Understand the concept of spatial planning in relation to the conventional urban planning
- Understand the basic elements and principles of spatial planning through different case studies
- Understand the rationale of choosing appropriate implementing tools to deal with different planning issues
- Understand the basics and familiarize essential skills to apply administrative and collaborative tools to Vietnam’s situation
- Know how to incorporate implementation tools and strategies in a case study.

### Requirements for participation

**Test method**

Written exam (120 min), In-class assignment, home exercise
### Conditions for Assessment

Accept home exercise, in-class assignment, pass exam. 

**Recommendation:** Successful attendance at seminar.

### Grading

Final written exam (60%) in-class assignment (20%) and home exercise (20%).

### Application

MSc SUD at VGU

### Literature

*(Reading part: 1.2 + 1.3 + 1.4 + 1.5, page 38 - page 57)*

*(Reading part: Tool 13 Defining legal and planning instruments, page 211 - page 224)*


Fumihisa Miyosh, and Yoshitomo Kubo (2014). *A Brief History of Japanese LR Experiences and Examples in Hiroshima City & Examples of Japan's Support to Thailand, Nepal and Columbia on LP/LR*


Vinh Vũ Thị (2014). *Thu gom và tài điều chỉnh đất trong các dự án nâng cấp đô thị Việt Nam.*


ITDP (2014). *TOD Standard 2.1*

Module Description

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<th>Modul name</th>
<th>Methodology of Empirical Analysis</th>
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<td>Englisch</td>
<td>Prof. Dr. Hans-Joachim Linke</td>
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10 Courses of the module
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<tr>
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<td>Methodology of Empirical Analysis</td>
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</table>

### 2 Study content

The scientific analysis and understanding of urban development require the skill to carry out empirical study and analyse empirical data. In urban development, both qualitative and quantitative data are significant. The course equips students with some basic skills in research design and practical skills to assist them in their own research.

### 3 Learning outcomes

- The course will enable the participants to understand basic rules in empirical research.
- The students develop a basic understanding of and competence in the use of quantitative and qualitative data in social research.
- The students understand the main steps in carrying a research project in social sciences, focusing on urban development issues: identifying research problem, establishing research questions and objectives, choosing relevant research method, drafting research design, collecting and processing data, writing reports.
- The students are able to apply these skills to an urban planning and development problem.

### 4 Requirements for participation

### 5 Forms of examination

Modulabschlussprüfung:

- Modulprüfung (Studienleistung, Präsentation, Bestanden/Nicht bestanden)
- Modulprüfung (Fachprüfung, Hausarbeit, Standard)

### 6 Requirements on the award of credit points

### 7 Grading

Modulabschlussprüfung:

- Modulprüfung (Studienleistung, Präsentation, Gewichtung: 0)
- Modulprüfung (Fachprüfung, Hausarbeit, Gewichtung: 1)

### 8 Usability of the module

### 9 Literature

Elisabete A. Silva, Patsy Healey, Neil Harris, and Pieter Van den Broeck (2015), Handbook of
Module Description

Module name

**Multidisciplinary Project**

<table>
<thead>
<tr>
<th>Module no.</th>
<th>Credit points</th>
<th>Workload</th>
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Language of instruction: Englisch

Person responsible for the module: Prof. Dr. Hans-Joachim Linke

1 Courses of the module

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</tbody>
</table>

2 Study content

Training methods of integrated research on the urban and neighbourhood scale in a case study. Therefore, the students have to develop in small groups ideas for a sustainable urban development of a confined area of Ho Chi Minh City according to land use planning, green buildings, technical and social infrastructure. They have to develop a process of realising the new development. Therefore, they have to identify the economic, ecologic and social problems of that area as well as the framework of the development of that area (involvement according to the environment). They have to develop a vision for that area and measures for implementing. Therefore, they have to consider ecologic, economic and social aspects. Working on that project they have to show that they are able to use the methodologies, like analytical skills, critical assessment and so on, they learned in several other modules to identify convertible solutions.

The students train their soft skills and their ability to work independently in teams. They learn as well the using of project management tools to realize the project during the defined time and with the expected result. With a final report they have to describe the results, they gained during the project.

3 Learning outcomes

The course will enable the students to work in a complex urban development processes by using the methodologies they have learned during the study program. They are able to combine several economic, ecologic and social aspects of an urban sustainable development to get a sustainable planning result as well as to realize these results.
The students are well-organised, communicative, open minded, and capable to work independently in such an urban development process.

### 4 Requirements for participation
- 13-B2-J001 German/Vietnamese Law of Property and Planning
- Economics of Urban Development
- 13-XX-JXXX Instruments of Spatial Planning
- 13-XX-JXXX Urban Transport Planning
- 13-D1-J001 Green Building Design

### 5 Forms of examination
Modulabschlussprüfung:
- Modulprüfung (Studienleistung, Hausarbeit, Bestanden/Nicht bestanden)
- Modulprüfung (Fachprüfung, mündliche Prüfung, Dauer 20 min, Standard)

### 6 Requirements on the award of credit points

### 7 Grading
Modulabschlussprüfung:
- Modulprüfung (Studienleistung, Hausarbeit, Gewichtung: 0)
- Modulprüfung (Fachprüfung, mündliche Prüfung, Gewichtung: 1)

### 8 Usability of the module

### 9 Literature
Module Description

Modul name

Sustainable Waste Management and Life Cycle Assessment Application

<table>
<thead>
<tr>
<th>Module no.</th>
<th>Credit points</th>
<th>Workload</th>
<th>Self-study</th>
<th>Duration</th>
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<td>180 h</td>
<td>120 h</td>
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Language of instruction
Englisch

Person responsible for the module
Prof. Dr. Liselotte Schebek

Courses of the module

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</table>

Study content

This module combines the topics sustainable waste management and life cycle assessment (LCA).

In the first part of the lecture, principles of the development of circular economy and waste management concepts in an international context will be taught. The concept of Integrated Sustainable Waste Management which is particularly relevant to design sustainable waste management in urban contexts and in countries in transitions, is presented. Relevant actors of the waste management chain, collection and treatment practices as well as approaches for the evaluation and design of waste management systems (for example benchmarking, LCA) will be addressed.

In the second part of the lecture, a practical introduction to the LCA-method will be given. Concerning the content, a special emphasis is put on the LCA application in the field of circular economy and waste management: the assessment of waste streams and waste management systems is explained, typical LCA applications and lessons learnt from the current research are presented and, thus, the role of LCA for sustainable waste management is demonstrated. Methodologically, the focus is on the presentation of specific LCA software and databases as well as the communication of the results for practical decision support for planners, developers and companies. In this respect, the module is an extended course for students with basic knowledge of the LCA method, but it can also be used by students without previous LCA knowledge.
The accompanying exercise includes a case study analysis to identify waste flows and relevant actors of the waste management chain and applies basic approaches for the evaluation the city’s waste management system. Methodological aspects of LCA will be demonstrated based on a literature analysis. A practical exercise is given to introduce an LCA software and its application to model certain aspects for the specific case study. By evaluating the presented case study, knowledge about the environmental impacts of waste collection and treatment from a life cycle perspective is conveyed and decision-making contexts of waste management are clarified.

Within the scope of the study achievement, a waste management system (case study from the accompanying exercise) is assessed environmentally using the LCA approach and the LCA software openLCA. The results of the stakeholder and waste stream analysis for the specific case study are also part of the study achievement.

### 3 Learning outcomes
On successful completion of this module, students should be able to:

1. Identify and assess relevant elements, aspects and stakeholders of waste management systems and to evaluate them from different perspectives;
2. Apply methodological concepts for the evaluation of waste management systems;
3. Understand the concept of life cycle thinking and implementation steps of an LCA;
4. Implement a basic LCA model using an LCA software and databases
5. Interpret LCA results in a practice-oriented way and communicate them to decision-makers;
6. Develop measures for sustainable waste management;
7. Understand the role of life cycle thinking for the evaluation and optimization of waste management systems.

### 4 Requirements for participation
none

### 5 Forms of examination
Modulabschlussprüfung:

- Modulprüfung (Studienleistung, Präsentation, Bestanden/Nicht bestanden)
- Modulprüfung (Fachprüfung, Klausur, Dauer 90 min, Standard)

Study Achievement: Preparation of a group presentation; during the course the presenting groups are selected by the lecturers

### 6 Requirements on the award of credit points
Passing of the examination and the study achievement.

### 7 Grading
Modulabschlussprüfung:

- Modulprüfung (Studienleistung, Präsentation, Gewichtung: 0)
Modulprüfung (Fachprüfung, Klausur, Gewichtung: 1)

8 Usability of the module

9 Literature


10 Comment

Module Description

Modul name

Urban Construction Technologies

<table>
<thead>
<tr>
<th>Module no.</th>
<th>Credit points</th>
<th>Workload</th>
<th>Self-study</th>
<th>Duration</th>
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<td>180 h</td>
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<td>Every semester</td>
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Language of instruction

Englisch

Person responsible for the module

Prof. Dr. Christoph Motzko

1 Courses of the module

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<tr>
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<td>Urban Construction Technologies</td>
<td>0</td>
<td>Seminar</td>
<td>4</td>
</tr>
</tbody>
</table>

2 Study content

• Construction Process Management
• Lean Construction
• Cast-in-place Concrete Technology
• Construction Project Scheduling
3 Learning outcomes

• Students understand the process concept and are basically able to build up the organization of construction projects
• Students understand the principles of Lean Construction and know selected methods
• Students have an overview of construction technologies in urban areas
• Students are able to estimate the costs in principle and to indicate the prices in construction projects
• Students are able to create schedules for construction projects
• Students understand and are able to apply the methods of risk assessment in relation to health and safety in construction projects

4 Requirements for participation

5 Forms of examination
Modulabschlussprüfung:

• Modulprüfung (Fachprüfung, schriftliche Prüfung, Dauer 120 min, Standard)

6 Requirements on the award of credit points

7 Grading
Modulabschlussprüfung:

• Modulprüfung (Fachprüfung, schriftliche Prüfung, Gewichtung: 1)

8 Usability of the module

9 Literature


• Nunnally SW (2010) Construction Methods and Management. Pearson
Module Description

Modul name

Urban Development and Architecture of Cities

<table>
<thead>
<tr>
<th>Module no.</th>
<th>Credit points</th>
<th>Workload</th>
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Language of instruction

Englisch

Person responsible for the module

Prof. Dr. Hans-Joachim Linke

1 Courses of the module

<table>
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<td>13-B2-J005-se</td>
<td>Urban Structures</td>
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<tr>
<td>13-M4-J001-se</td>
<td>Typology of Buildings</td>
<td>0</td>
<td>Seminar</td>
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</table>

2 Study content

The seminar offers students insights into the theory of urban planning and compares past with current approaches. Urban morphology and urban fabric as well as models and universal concepts of spatial planning will be presented and urban usages with different forms, developments and demands in the context of environmental and infrastructural interests will be covered.

In the seminar the development of sustainable spatial structures and the role of planning with instruments and procedures will be analysed. Therefore, the seminar takes a look at the society and its participation as well as its new planning culture of integrated approaches. Content of the module are the concepts of urban design, especially for the public space, and neighbourhood characteristics.

On one hand students will examine the architecture of buildings as bricks of the urban environment and on the other hand the city architecture at different levels. The typology of buildings in the urban environment, of housing and of office buildings will be analysed. Next to the typology of building construction, also the typically used materials will be presented.

3 Learning outcomes

- The course will provide the students a knowledge on urban planning, urban design and architectural and typological aspects of cities.

- It will enable the students to understand and to analyse the importance and the demands of different usages in specific locations or urban neighbourhoods.

- The students know about the main challenges of sustainable developments and construction and they are able to assess planning based on different instruments and procedures.
The students have extensive knowledge about the new stakeholder orientated planning culture and can create implementation strategies with participatory dimensions.

- The students will also be able to analyse and assess the city, the neighbourhood and buildings from architectural, functional and technical perspectives. Basic urban design skill will help them to improve the city's images at different scales.

### 4 Requirements for participation

### 5 Forms of examination

Modulabschlussprüfung:
- Modulprüfung (Studienleistung, Präsentation, Bestanden/Nicht bestanden)
- Modulprüfung (Fachprüfung, mündliche Prüfung, Dauer 20 min, Standard)

### 6 Requirements on the award of credit points

### 7 Grading

Modulabschlussprüfung:
- Modulprüfung (Studienleistung, Präsentation, Gewichtung: 0)
- Modulprüfung (Fachprüfung, mündliche Prüfung, Gewichtung: 1)

### 8 Usability of the module

### 9 Literature


### 10 Comment

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**Module Description**
## Module name
Urban Rural Partnerships

<table>
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<th>Module Nr.</th>
<th>Credit Points</th>
<th>Hours</th>
<th>Independent Learning</th>
<th>Duration</th>
<th>Term</th>
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<td>Dr. Huong (VGU)</td>
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### 1 Course of Module

<table>
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<td>Seminar</td>
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</table>

### 2 Study Content
The module provides knowledge about the various roles and responsibilities of rural functions in metropolitan development in a holistic way and with the skills and abilities to respond to changes. Exploring the roles and contribution of the cities for rural development and emphasizing their negative impacts to the rural areas. By examining a range of rural areas, the module emphasises the importance of multi-scalar approaches, addressing the interaction between urban and rural areas and their development across time and space. The specific contents include:
- Functions, structure and propositions of rural and urban areas
- Relations between urban and rural regions, their interdependencies and linkages
- Urban-rural dependency and local economy
- Networks, regional and local co-operation and partnership
- Macro migration between metropolitan and rural areas and different stages of urbanization process
- Valuation of ecosystems
- Urban-rural development and scenario analysis

By critically examining theory and practice of rural as well as urban-rural development at the international, national and local levels in a variety of contexts, the module seeks to provide students with an understanding of the processes generating sustainable development. It especially discusses how partnership between urban and rural areas in different aspects would bring the benefits to both.

### 3 Learning Outcomes
The students understand the problems of rural areas in the surrounding of fast growing cities and the interaction as well as interdependencies between these two zones. Regarding local economic development for the rural areas, they know how to identify possible value chain for such rural areas and to realise such a value chain in cooperation with urban areas. Students are able to use valuation methods for ecosystem and its services that are important for sustaining both urban and rural zones.

### 4 Requirements for participation
-
| 5 | **Test method**  
Written exam (120 minutes), course work, written assignment |
|---|---|
| 6 | **Conditions for Assessment**  
coursework, written assignment, pass exam  
Recommendation: Successful attendance at seminar. |
| 7 | **Grading**  
70% for exam, 20% for written assignment and 10% for course work (in-class assignment). |
| 8 | **Application**  
M.Sc. SUD at VGU |

**Module Description**

<table>
<thead>
<tr>
<th>Module name</th>
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<tbody>
<tr>
<td><strong>Module Nr.</strong></td>
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1. **Course of Module**

<table>
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<tr>
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<td>Urban Transport Planning</td>
<td>6</td>
<td>Seminar</td>
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</table>

2. **Study Content**

- Introduction of Urban Transport Systems (0.5 CP)
- Integrated Urban-Transport Planning: Concept, Methods, and Examples (including TOD: Transit-Oriented Development, TOR: Transit-Oriented Region, TOC: Transit-Oriented Nation) (1.5 CP)
- Sustainable Transport Policy (0.5 CP)
- Smart Mobility Management (1 CP)
- Traffic Impact Assessment (TIA): Principles and Practices (1.5 CP)
- Field Trip and Report (1 CP)

3. **Learning Outcomes**
The course provides students with understanding, knowledge and skills on how to make planning and management schemes for an integrated urban and transport development. Students will learn key concepts and methods for planning and analysis through real-world examples. At the end, students applies what they have learnt in conducting an assignment aimed at addressing issues in either developed or developing cities.
Module Description

Modul name

Water in Urban Development

<table>
<thead>
<tr>
<th>Module no.</th>
<th>Credit points</th>
<th>Workload</th>
<th>Self-study</th>
<th>Duration</th>
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<td>120 h</td>
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Language of instruction

Englisch

Person responsible for the module


1 Courses of the module

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<td>Hydraulic Engineering</td>
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</table>

2 Study content

Sanitary environmental engineering deals with water supply techniques, wastewater discharge in sewer systems and wastewater treatment technologies.

**Water Supply Techniques** will give an overview about water sources, water treatment methods, water storage and transport systems as well as about the requirements and criteria for the selection of suitable water supply techniques to meet the most important challenges.

**Wastewater engineering** offers a fundamental knowledge of urban drainage and sewer systems, as well as municipal wastewater and sludge treatment technologies. Basic design criteria for wastewater treatment plants are discussed. We will also evaluate the effects of specific boundary conditions (e.g. wastewater composition, treatment objective, temperature) on the design of wastewater treatment plants and introduce water reuse concepts.

**Hydraulic Engineering** consists of the application of fluid mechanics to water flowing in an isolated environment (pipe, pump) or in an open channel (river, lake, ocean). The course is primarily concerned with open channel flow, which is governed by the interdependent
interaction between the water and the channel. Later applications include the design of hydraulic structures, such as flumes, sewage conduits, dams and breakwaters, the management of waterways, such as erosion protection and flood protection, and environmental management, such as prediction of the mixing and transport of pollutants in surface water. Hydroelectric-power development, water supply, irrigation and navigation are some familiar applications of water resources engineering involving the utilization of water for beneficial purposes. More recently, concern for preserving our natural environment and meeting the needs of developing countries has increased the importance of water resources engineering.

### Learning outcomes

#### Water Supply Techniques
Water Supply Techniques will enable the students to

- recognise the challenges of an urban water supply.
- understand the functionality of urban water supply systems.
- recognise (in brief) the challenges and possible solutions of rural water supply.

#### Sanitary Engineering
Sanitary Engineering will enable the students to

- gain basic knowledge of urban drainage, wastewater and sludge treatment technology.
- recognise and assess influencing factors on wastewater treatment systems and dimensioning of treatment plants.
- evaluate drivers for water reuse concepts.

#### Hydraulic Engineering
Hydraulic Engineering will impart knowledge on

- application of continuity, energy concept to open-channel flow, design of channels considering uniform flow and flow resistance, non-uniform flow, longitudinal profiles and calculation of water levels, design of channel controls and transitions
- Examples and applications: river engineering, flood protection, weirs, hydropower use, inland navigation

### Requirements for participation

### Forms of examination

Modulabschlussprüfung:

- Modulprüfung (Fachprüfung, Klausur, Dauer 90 min, Standard)

### Requirements on the award of credit points
| 7 | Grading  
Modulabschlussprüfung:  
- Modulprüfung (Fachprüfung, Klausur, Gewichtung: 1) |
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<td>Usability of the module</td>
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| 9 | Literature  
- Metcalf &amp; Eddy Inc., George Tchobanoglous (2013): Wastewater Engineering: Treatment and Resource Recovery: Treatment and Reuse  
| 10 | Comment |