

UAS Dresden
Department of Civil
Engineering

Study Programme
- Basic Studies
- Advanced Studies
- Final Year Project

Laboratory Facilities

Site Visits

M.Sc. Programme

Water Education

Evaluation

University of Applied Sciences, Department of Civil Engineering



UAS Dresden
Faculty of **Civil Engineering**
& Architecture

Friedrich-List-Platz 1

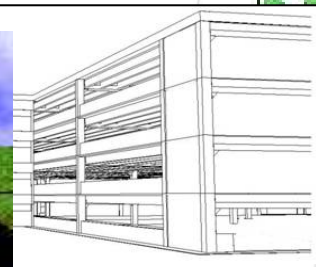
01069 Dresden

Contacts in the Faculty

Dean of Faculty
Prof. Dr.-Ing. Ch. Grieger Tel.: (0351) 462 2511

Strengths of the Department of Civil Engineering

- Highly-qualified lecturers with long-standing pedagogic experience
- Many, well-equipped laboratories
- Studies and practical experience abroad
- Short length of studies (usually 8 semesters)
- Project- and group work
- Final Year Project in co-operation with industry & engineering offices
- Postgraduate studies



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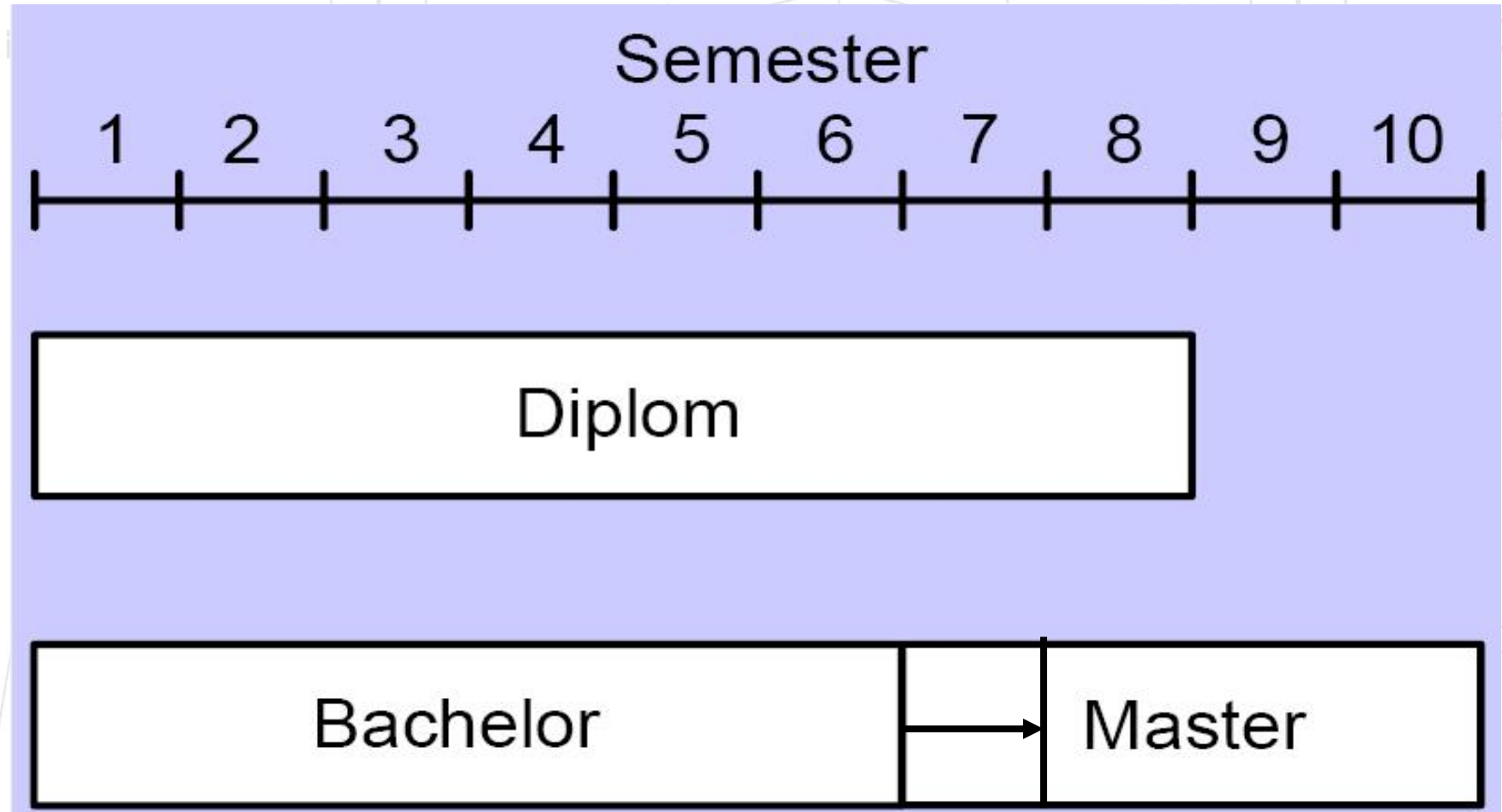
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Diploma Study Programme



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Study Programme

Initial Practice (8 weeks)

Type: Site, apprenticeship, draughtsman

➤ 8 weeks up to Intermediary Exam

Basic Studies (Semester 1 – 3)

- Mathematics, other Science Subjects
- Buildings, Applied Mechanics, Construction Materials
- Informatics for Engineers (Hardware, Relevant Software)

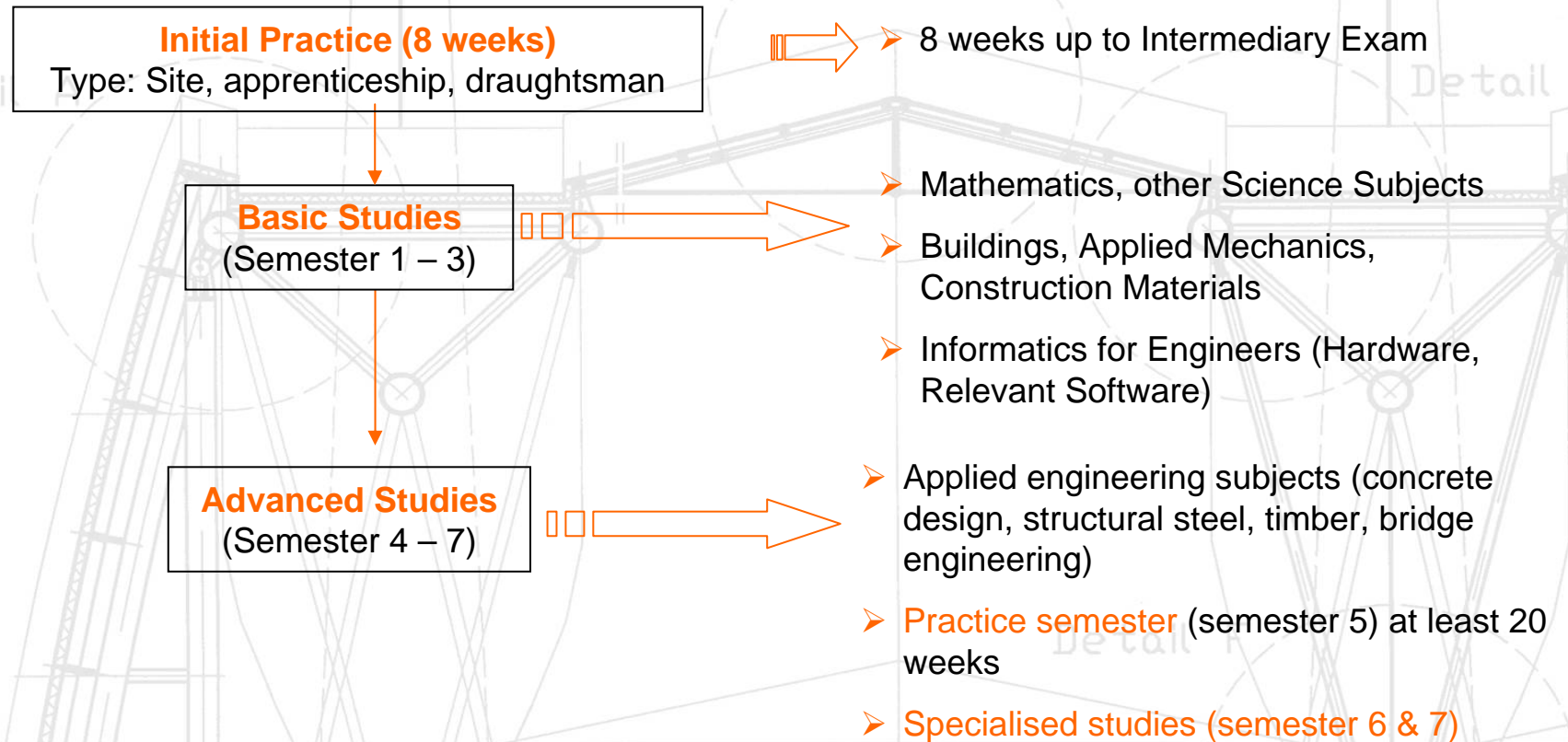
Diploma Study Programme Civil Engineering, valid from 2011

No.	Module	Semester weekly hours			Credits
		1. Sem.	2. Sem.	3. Sem.	
		L/S/P	L/S/P	L/S/P	
Compulsory Modules					
BD A1	Mathematics	3/2/0	2/2/0		10
BD A2	Construction Physics	2/0/0	1/1/0		4
BD A3	Construction 1/CAD	3/6/0			9
BD A4	Construction 2		2/1/0	0/1/0	5
BD A5	Material Science	3/1/1	3/1/1		10
BD A6	Informatics		0/1/2	0/1/1	5
BD A7	Surveying	1/0/0	1/2/0		4
BD B1	Applied Mechanics 1	3/2/0	2/2/0		10
BD C1	Properties of Soils & Rocks	0/1/0	1/1/0		4
BD D1	Transportation Planning		2/1/0		3

Diploma Study Programme Civil Engineering, valid from 2011

No.	Module	Semester weekly hours			Credits
		3. Sem. L/S/P	4. Sem. L/S/P	5. Sem. L/S/P	
Compulsory Modules					
BD B2	Applied Mechanics 2	2/2/0	2/2/0		8
BD B3	Solid Construction 1	2/2/0			4
BD B4	Solid Construction 2		2/2/0		4
BD B6	Structural Steel Engineering 1	2/2/0			4
BD B7	Structural Steel Engineering 2		2/3/0		5
BD C2	Geotechnical Engineering	2/1/0	0/1/0		4
BD C4	Hydromechanics/ Water Engineering	3/0/0	3/1/0		8
BD D2	Road Construction 1	2/1/0	3/1/0		7
BD D3	Railway Engineering 1	2/0/0	2/2/0		6
BD E1	Project Management 1	1/2/0	3/1/0		7
BD P1	Practical Semester			0/1/0	28

Study Programme



Specialised studies

- **Modular Concept**
Compulsory & elective modules are chosen to suit the desired discipline of specialisation
- **To advance & encourage engineering thinking through interdisciplinary project work**

Structural Engineering

- Informatics for Engineers
- Buildings, layout & details
- Structural Analysis
- Construction Materials
- Building Conservation
- Project- & Construction Management
- Concrete Technology
- Timber / Structural concrete / Structural Steel

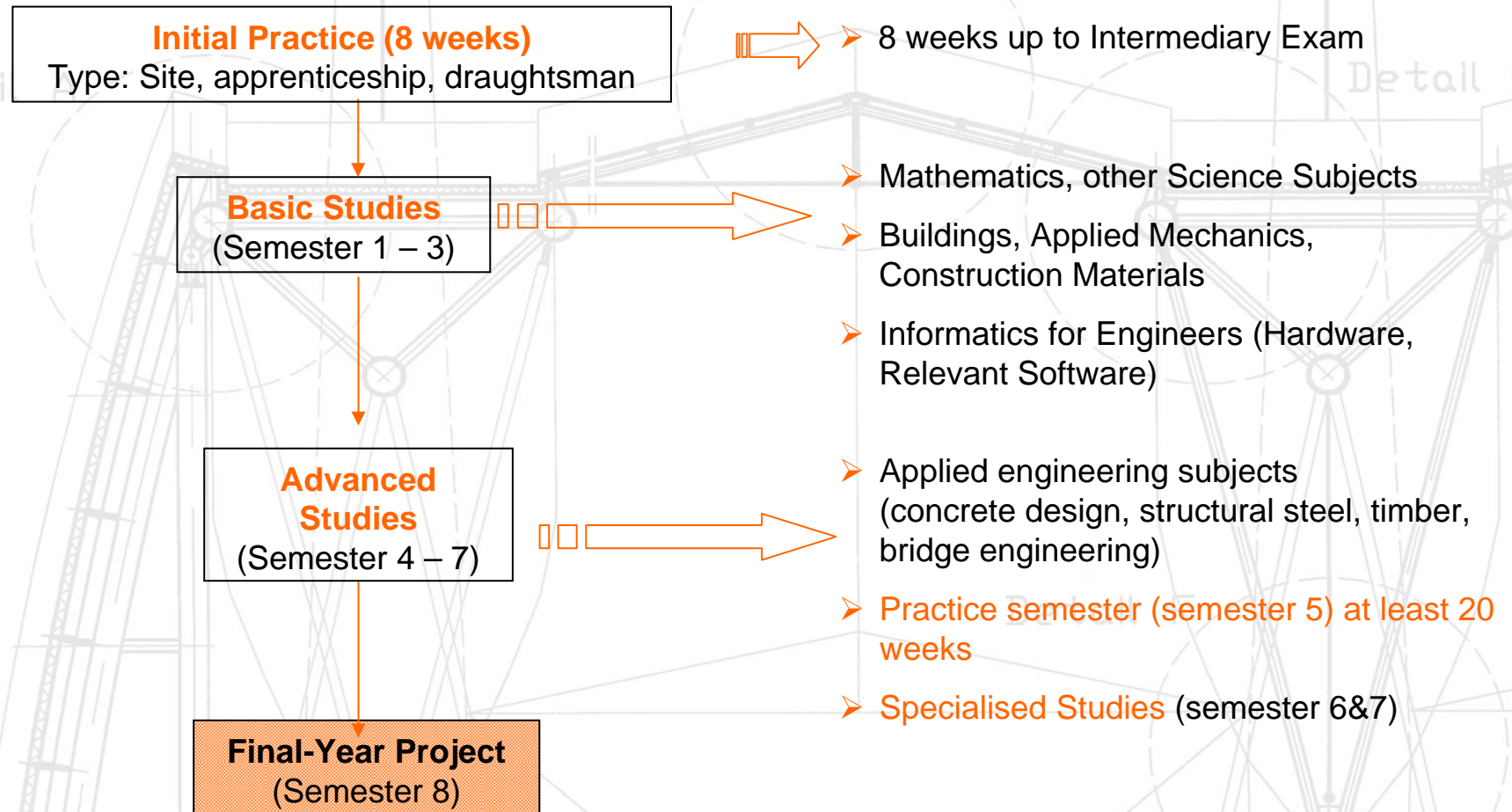
Transportation and Geotechnical Engineering

- Project- & Construction Management
- Railway Engineering
- Geotechnical Engineering
- Road Engineering
- Environmental Engineering
- Traffic Engineering & Urban planning
- Water Engineering

Diploma Study Programme Civil Engineering, valid from 2011

No.	Module	Semester weekly hours		Credits
		6. Sem. L/S/P	7. Sem. L/S/P	
Compulsory Modules				
BD B5	Solid Construction 3	2/2/0		5
BD B8	Timber Construction 1	2/2/0		5
BD B9	Bridge Construction 1	2/1/0		4
BD C3	Geotechnics/ Water Engineering	4/2/0		6
BD D4	Transportation 1	3/0/0		3
BD E2	Project Management 2	4/4/0		8
BD P2	Project		0/4/0	6
	2 Specialisations: Structural Engineering Transportation and Geotechnical Engineering		8 + 16*	24

Study Programme



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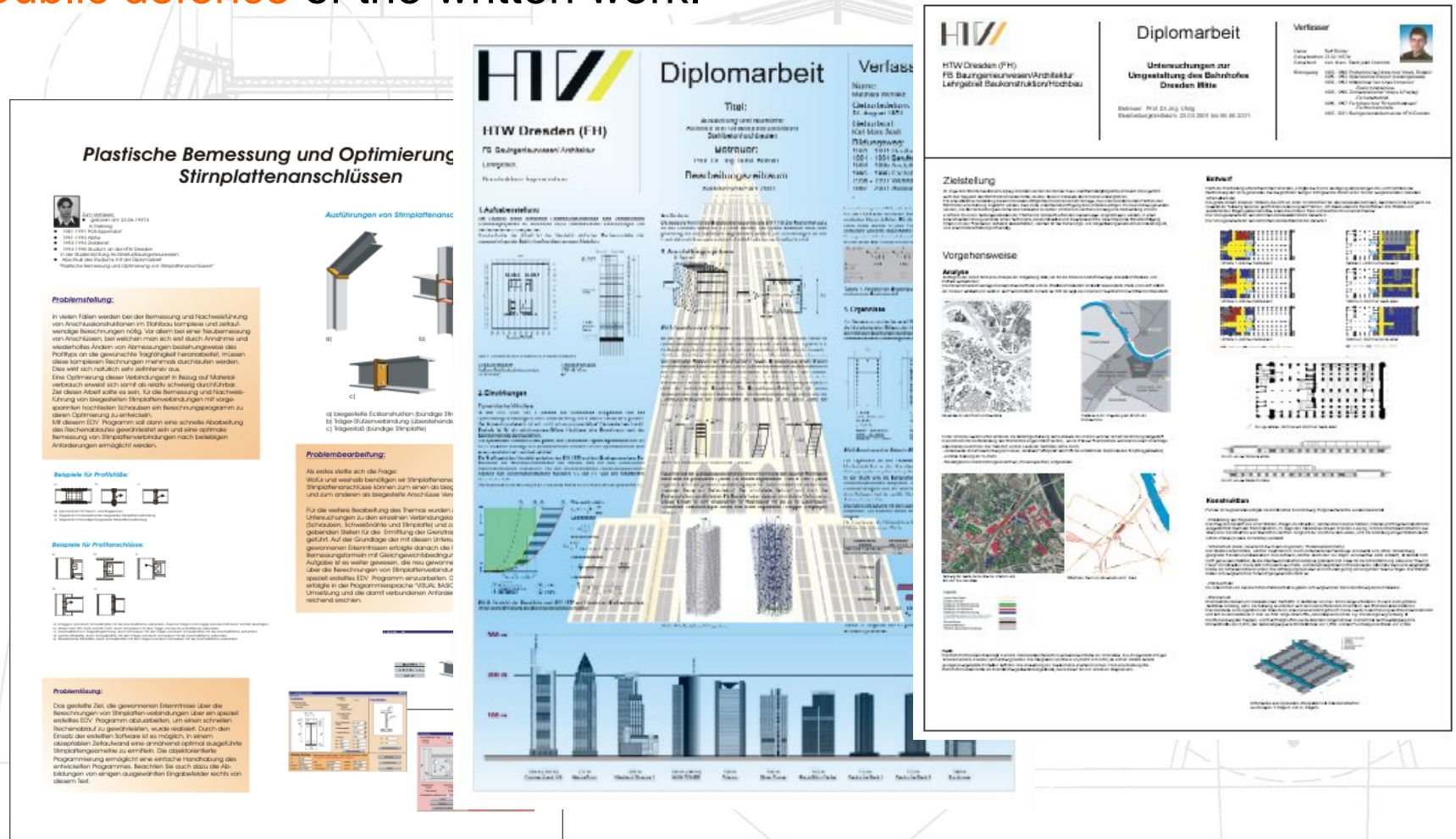
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Final-Year Project

Studies are completed with the **production of a Final-Year Project** with a **public defence** of the written work.



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Laboratory Facilities Water Engineering

➤ **Hydraulics Laboratory**

Water-related experimentation, river engineering tests, tests on stand pipes, pipe hydraulics & flume design, computer assisted analysis & measurement

➤ **Groundwater laboratory**

Research & Final Year Projects with students

Groundwater & transportation of gaseous media through soil



Volume measurement
in an open flume



Tests on stand pipes



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Site Visits

- Site visits serve to deepen & supplement lectures, tutorials and practicals
- Acquainting students with latest developments in a discipline & studying outstanding historic structures



Railway bridge over river
Danube, Ingolstadt



Section of Inter-City Railway Line: Bridge over river Lahn



Mega building site Berlin – Potsdamer Platz



Information centre:
Pumped-storage hydro power
station, Goldisthal



Berlin – Building site at houses of parliament



Ship-lifting facility,
Rothensee

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Impressions



The student representative council organises many social activities for students, such as parties, excursions, sport events etc..



Exams after each semester – to demonstrate knowledge of the acquired subject matter



Extra curricular activities are encouraged, e. g. participation in the annual concrete boat race.

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Postgraduate Master of Science programmes

In the Department of Civil Engineering students may qualify for the degree of

Master of Science (M.Sc.)

with specialisation in

Structural Engineering & Computing Transportation- & Geotechnical Engineering

Prerequisites:

Completed first degree in Civil Engineering

- of a German or foreign university
- Curriculum of first degree over at least 4 years
- Degree certificate Dipl.-Ing. or equivalent

Curriculum:

- Full-time: 2 semesters,
Part-Time: 4 semesters
- Modular structure
- Significant research project in final semester

Benefits:

- Nationally & internationally recognised
Qualifies for doctoral studies, locally & abroad

Education in Water Sciences

8. Semester

Diploma Thesis

7. Semester

Module Urban Water Management
elective, 2 SWS Seminar, 2 SWS Practical

6. Semester

Module Water Engineering
elective, 2 SWS Seminar, 2 SWS Practical

5. Semester

Practical

4. Semester

Water Supply
Waste Water
2 SWS Lecture

Hydrodynamics,
Fluid Hydraulics
2 SWS L 1 SWS S

3. Semester

Hydrology
Water Engineering
2 SWS Lecture

Hydrostatics

1 SWS Lecture

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Evaluation

Field Investigation and Parameter Determination



Sediment Sampling Lake
Göttwitzsee 2007

Column Experiments for determination of k-values of lake beds

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Evaluation

Clogging of Infiltration Facilities



Testing Materials for Clogging Prevention
in Infiltration Basins

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Evaluation

Specialty



Lab & Field Measurements
under Difficult Conditions

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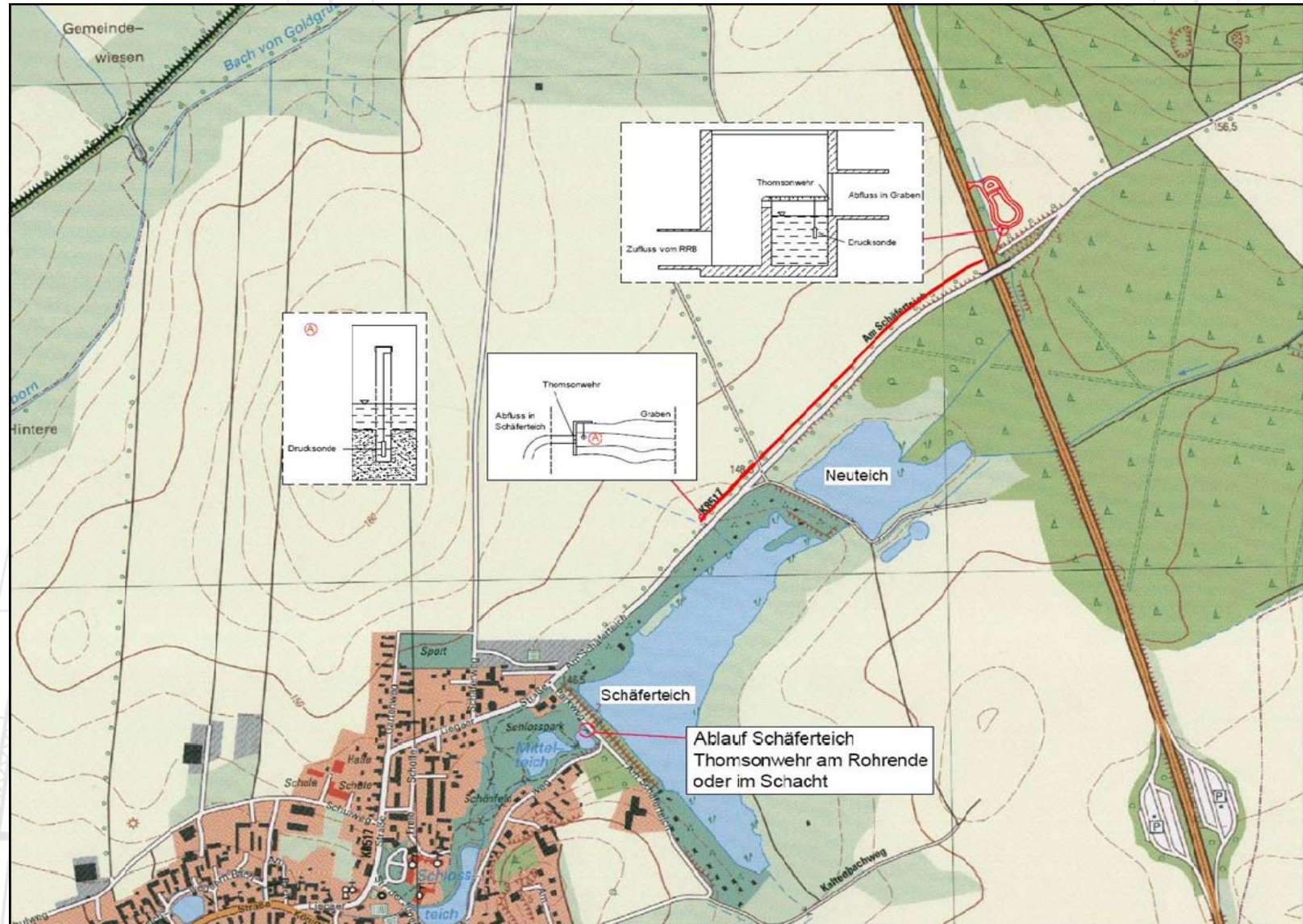
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Evaluation

Student Project on Infiltration Facilities along a Motorway



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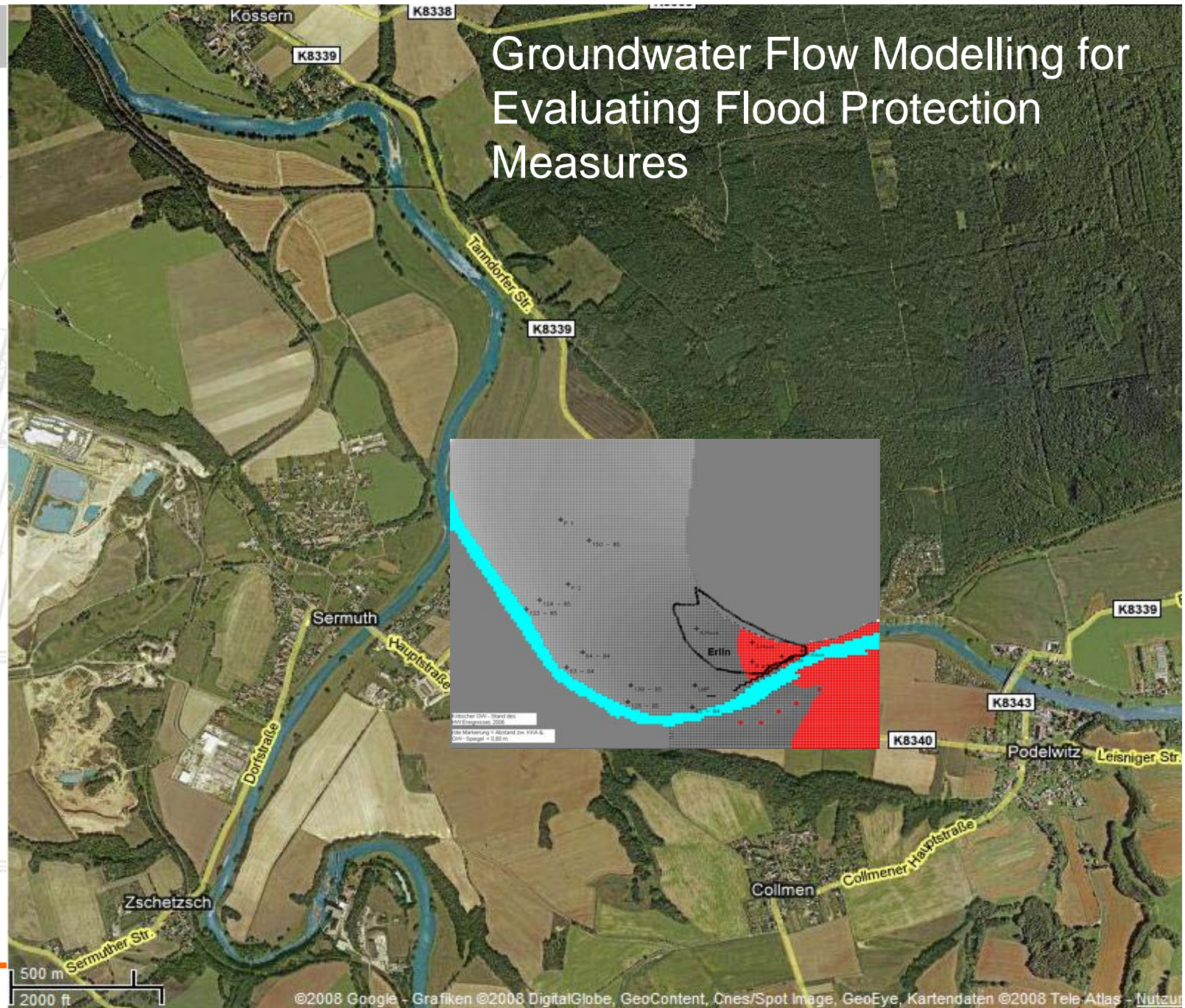
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Evaluation

Groundwater Flow Modelling for Evaluating Flood Protection Measures



Collaboration with Regional Companies

- Practical semester used for long-term linkage
- Students projects
- 50% of all Diploma & M.Sc. Students work on tasks in collaboration with regional companies, Adaption of content, restrictions
- Collaboration agreements (e. g. DREWAG, ARCADIS)
- Invitation of guest lecturers
- Excursions to water companies, construction sites
- Organisation of yearly workshop / conference on water supply
- Articles for local journals
- Collaborative papers and stands at fairs

Linking Education and Research

- 50% of all Diploma & M.Sc. Students work on research projects
- Best students go for M.Sc. or Ph.D.
- Collaboration with other research institutions (TUD, TZW,)
- International students exchange (ERASMUS, DAAD-India)
- Guest researchers (2 weeks – 2 months)
- Involvement of students in conferences, publications
- Third party funding vital for equipment maintenance/ replacement and further staff, at present 3 Ph.D. students plus 2 scientists funded, project budget about 200,000 Euro/year

Self-Evaluation

Strengths

- Very good links to practice, teaching orientation on application
- Individual training, many options for interested students
- Well equipped laboratories and field work facilities

Weaknesses

- Lack of time for more project work
- Insufficient training on soft skills, scientific working methods, law and regulations
- Insufficient Alumni work and life-long learning offers