



Hochschule für Technik
und Wirtschaft Berlin

University of Applied Sciences

Elements of an international and application oriented curriculum in Automotive Engineering

Prof. Dr.-Ing. Werner Stedtnitz

FISITA 2010



**Hochschule für Technik
und Wirtschaft Berlin**

University of Applied Sciences

Technology

Economics

five different departments spanning fields from engineering, computer science and economics to culture and design.

Approximately 10.000 students

270 professors and 700
assistant lecturers

Approximately 60
Bachelor`s and Master`s
degree study programmes



**Hochschule für Technik
und Wirtschaft Berlin**

University of Applied Sciences

Approximately 10.000 students

270 professors and 700
assistant lecturers

➤ 1 department of
culture/design
1100 students

➤ 2 departments
of economics/
business
5300 students

Approximately 60
Bachelor`s
and Master`s degree
study programmes

➤ 2 departments
of engineering
3100students

Department 2 Engineering II



Civil Engineering
(B/M)



Industrial Environmental
Computing (B/M)



Automotive
Engineering (B/M)



Life Science Engineering
(B/M)



Mechanical
Engineering (B/M)



Construction and Real
Estate Management (M)



Facility Management
(B/M, with Beuth
University of Applied
Sciences Berlin)

Bachelor's degree study programmes

Admission requirements:	Secondary school/high school with subject-specific university entrance qualification, pre-study internship if applicable
Duration of studies:	6 or 7 terms 6 Automotive Engineering
Bachelor's thesis:	approx. 8 weeks with final degree (bachelor's) 10 Automotive Engineering

Master's degree study programmes (consecutive)

Admission requirements:

Bachelor's degree

Duration of studies:

3-4 terms

4 Automotive Engineering

Master's thesis:

approx. 3-6 months

18 weeks Automotive Engineering
(1 term)

Degree:

Master's in the respective
field of study

Bachelor Automotive Engineering HTW Berlin

Specialized modules
for choice

Term 6	15 cp
	15 cp
Term 5	15 cp
	15 cp
Term 4	30 cp
Term 3	30 cp
Term 2	30 cp
Term 1	30 cp

Specialized modules of
Automotive Engineering

Thesis (10 weeks)

Internship (12 weeks)

modules of Automotive
Engineering

modules of Mechanical
Engineering
Mathematics, Physics, ...

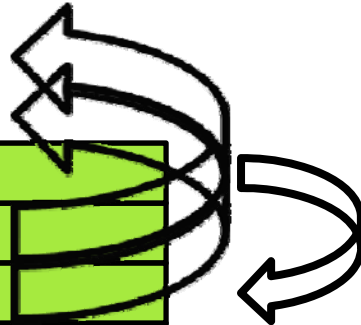
cp: credit points

Bachelor Automotive Engineering HTW Berlin / CDHAW Shanghai



Term 7

Term 6	15 cp
	15 cp
Term 5	15 cp
	15 cp
Term 4	30 cp
Term 3	30 cp
Term 2	30 cp
Term 1	30 cp



Shift internshift to China
Shift thesis to China

Switch specialized
modules of Automotive
Engineering from the
end of term 6 to the end
of term 5



Mutually accredited degrees

Term 7	30 cp
Term 6	30 cp
Term 5	15 cp
	15 cp
Term 4	30 cp
Term 3	30 cp
Term 2	30 cp
Term 1	30 cp

Combined Internship
and Thesis in the
Automotive Industrie in
Shanghai

Specialized modules of
Automotive Engineering
CDHAW Shanghai

Specialized modules of
Automotive Engineering
HTW Berlin

Master Automotive Engineering HTW Berlin

Combination of Thesis and International Internship possible

Term 4	25 cp	}
Term 3	16 cp	
	19 cp	
Term 2	30 cp	
Term 1	30 cp	

Thesis (18 weeks)

International Internship (12 weeks)

Specialized modules of Automotive Engineering HTW Berlin

The Elements of an international and application oriented curriculum in Automotive Engineering

➤ Internship

integrated in the
Bachelor-Curriculum



Mercedes-Benz Sindelfingen; Source: Motor-Journal 1/2010

The Elements of an international and application oriented curriculum in Automotive Engineering

- Internship integrated in the Bachelor-Curriculum
- International Internship integrated in the Master-Curriculum



VW Bratislava; Source: www.schupfer.eu

The Elements of an international and application oriented curriculum in Automotive Engineering



- Formula Student integrated in the Bachelor-Curriculum (Teamworking, Soft Skills, Sponsoring)

The Elements of an international and application oriented curriculum in Automotive Engineering



➤ Creating a HTW-Formula Student Association

The Elements of an international and application oriented curriculum in Automotive Engineering



eRockit
made in
Berlin



- Presentation of Automotive Innovations integrated in the Master-Curriculum

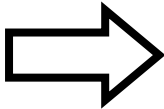
The Elements of an international and application oriented curriculum in Automotive Engineering

- Presentation of Automotive Innovations integrated in the Master-Curriculum
- Excursions to the Automotive Industries integrated in the Master-Curriculum



Source: <http://volkswagen-nutzfahrzeuge.de>

The Elements of an international and application oriented curriculum in Automotive Engineering

- Presentation of Automotive Innovations integrated in the Master-Curriculum
- Excursions to the Automotive Industries integrated in the Master-Curriculum
- Free one-year VDI-Membership for HTW-Alumnis  Feedback Quality Check
- Industrial contract lecturers from Daimler, IAV, Continental,...



The Elements of an international and application oriented curriculum in Automotive Engineering

➤ Automotive student-projects integrated to the curriculum, supported by the local industry



Acceleration of Children in bicycle-trailers (Dummy from Takata Berlin)

The Elements of an international and application oriented curriculum in Automotive Engineering

- Industrial Honorary Professors supporting applied student projects



Prof. Dr. Brauckmann
Member of
the Board of Management
of TÜV Rheinland

The Key Points Tomorrow

- Follow up of today's key points
- Linking the different non-automotive HTW-curricula with the automotive HTW-curriculum

Department
Engineering II
Faculties



Civil Engineering
(B/M)



Industrial Environmental
Computing (B/M)



Automotive
Engineering (B/M)



Life Science Engineering
(B/M)



Mechanical
Engineering (B/M)



Construction and Real
Estate Management (M)

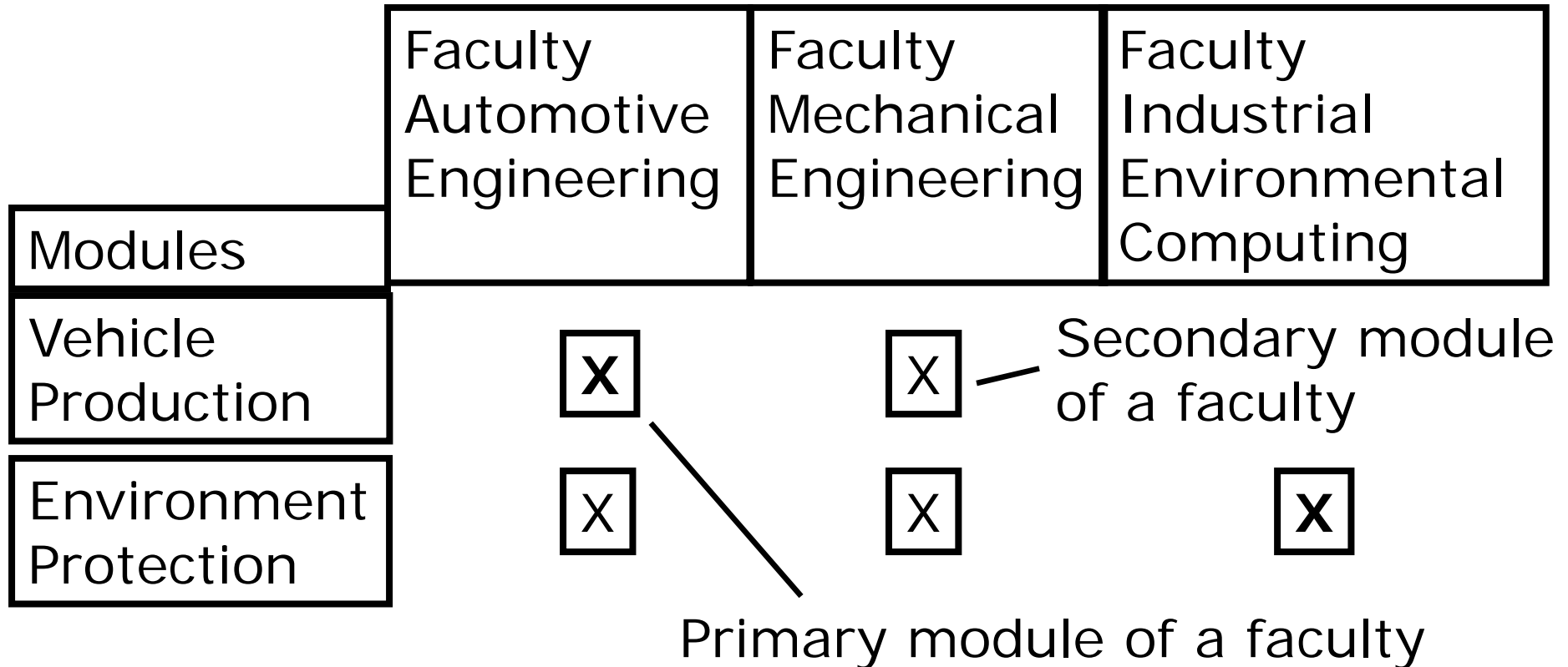


Facility Management
(B/M, with Beuth
University of Applied
Sciences Berlin)

The Key Points Tomorrow

- Linking the different non-automotive HTW-curricula with the automotive HTW-curriculum

Example



The Key Points Tomorrow

- Follow up of today's key points plus
- Linking the different non-automotive HTW-curricula with the automotive HTW-curriculum
- Linking the automotive HTW-curriculum with the curriculum of selected international partner universities
- Improvement of the QM-process for curricula by involving the students' demands

VDI



htw

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University of Applied Sciences



Thanks for your interest!

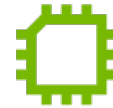


Prof. Dr.-Ing. Werner Stedtnitz

Department 1 Engineering I



Electrical Engineering (B)



Computer Engineering (B)



Telecommunications (B)



Microsystems Technology (B)

Information Technology/
Distributed Systems (B)



Environmental Engineering/
Regenerative Energies (B/M)



Information and Commu-
nication Technology (M)



Building Energy and Building
Information Technology (B)



Applied Automation (M)

Systems Engineering (M)

Department 3 Business I



Business Administration
(B/M)



Real Estate Management
(B)



Public Management (B)



Business Law (B)



Non Profit Management
And Public Governance



International Business



International
and Development Economics



Real Estate Management (M)



Industrial Sales and
Innovations Management (M)



Finance, Accounting, Corporate
Law and Taxation (M)

Human Resources Management
(M)

Department 4 Business II



Applied Computer
Science (B/M)



Industrial Engineering and
Management (B/M)



Business Computing
(B/M)



Business Mathematics (B)



Media and Computing



Computer Science and
Business (B)

Interaction Design/
Game Design (B)



Business Communication
Management (B/M)

Financial Services
Risk Management (M)

Department 5 Design



Clothing Technology/
Fabric Processing (B/M)



Communications Design



Fashion Design (B/M)



Museums Studies (B)

Museum Management and
Communication (M)



Conservation and
Restoration/Field
Archaeology (B/M)

Geoarchaeology and Field
Archaeology (M)

Master's degree study programmes (postgraduate)

Admission requirements:	University degree (e.g. German "Diplom") from a university or university of applied sciences, professional experience
Duration of studies:	2–4 terms
Master's thesis:	approx. 3-6 months
Degree:	Master's

No postgraduate Master in Automotive Engineering

Distance learning and advanced training 500 students

Distance learning: correspondence study courses

MBA Corporate Management | Mechanical Engineering | Industrial Engineering and
Management | Mathematics Prep Course | Conservation and Restoration |

Postgraduate

MBA Corporate Management | Industrial Engineering and
Development

Advanced

Around 60 different courses from
companies/administration, scientific professionals

We don't have
distance learning in
Automotive
Engineering today.