

Master's Program in

Product Development

Master of Science (M.Sc.)

- ◆ mechanical engineering
- ◆ industrial engineering
- ◆ electronics engineering
- ◆ industrial design
- ◆ similar programs

Pforzheim University
Graduate School
Tiefenbronner Straße 65
D-75175 Pforzheim

www.pforzheim-graduate-school.de



Objectives

Product development is one of the core processes of business enterprises. The success of a company is linked very closely to the success of its products on the market.

Product development in today's companies is chiefly characterised by the following features:

- ◆ There is increasing pressure to dramatically reduce product development lead times.
- ◆ Successful products can only be developed by different disciplines working together.
- ◆ Competitive advantages can only be achieved through innovative solutions.
- ◆ There is constant pressure to reduce costs both in the development process itself and with regard to the final product.

It is vital for any company that wants to meet these challenges successfully to employ staff with the best possible training in product development.

It is therefore the specific objective of the Master's Program in Product Development to prepare students to meet the demands of modern, future-oriented product development.

They should be able to:

- ◆ assume leading roles in the field of product development and technical management.
- ◆ work in the field of product development research.
- ◆ use the knowledge acquired to make the move towards economic independence.

Special features

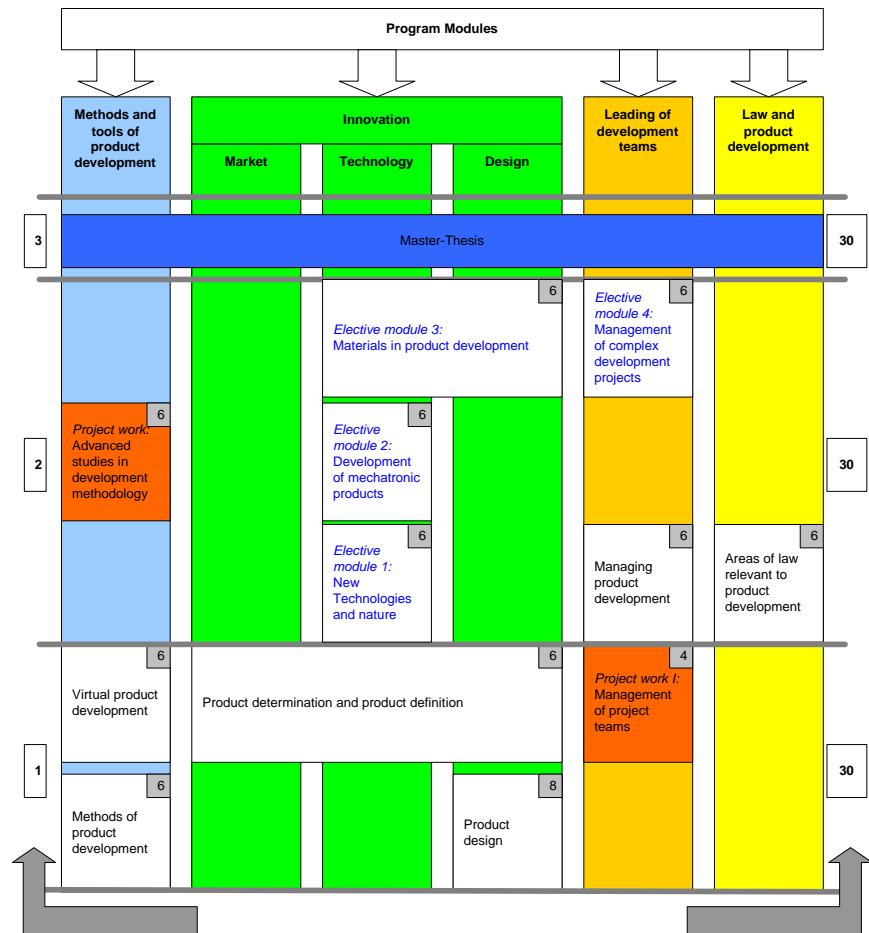
The new master's program has the following special features:

- ◆ **Interdisciplinary orientation**, comprising content from disciplines that are important for product development: engineering, economics, design and law.
- ◆ **Student projects as an integral part of the program.** During the projects the emphasis is placed on the following:
 - ... management of project teams,
 - ... advanced scientific study of development methodology,
 - ... interdisciplinary co-operation with designers.
- ◆ **Initiation and realisation of innovations** is one of the priorities of this course.

Duration of course and curriculum

The program lasts three semesters. The first two semesters consist of theoretical studies, lectures and project work. The third semester is exclusively reserved for writing the master's thesis. The program comprises 90 ECTS altogether.

The curriculum is designed in a strictly modular way. It consists of six compulsory modules which all participants must take. In addition, students must choose two of the four elective modules on offer.



Overview about the modules the of master program

Compulsory modules and lectures

Methods of product development

- ◆ Integrated product development
- ◆ Quality assurance in product development

Product design

- ◆ Introduction to design
- ◆ Usability and research
- ◆ Interdisciplinary project

Virtual product development

- ◆ Digital design
- ◆ Numerical methods in product development

Product determination and product definition

- ◆ Strategic product planning
- ◆ Marketing and market research
- ◆ Knowledge and innovation management

Managing product development

- ◆ Human Resources management
- ◆ R & D controlling
- ◆ Cross cultural management

Areas of law relevant to product development

- ◆ Legal protection of intellectual property
- ◆ Contract, purchasing and product liability law

Elective modules and lectures**Management of complex development projects**

- ◆ Management theory of complex projects
- ◆ Simulation: project management

Materials in product development

- ◆ Materials and design
- ◆ New materials
- ◆ Product recycling

Development of mechatronic products

- ◆ Mechatronics
- ◆ Development process of mechatronic systems

Innovation potentials based on new technologies and nature

- ◆ Bionics
- ◆ New technologies

Project work

- ◆ Management of project teams
- ◆ Advanced studies in development methodology

Target groups

This master's program is suitable for university graduates wanting to study for a master's degree directly after gaining their first degree and **for graduate professionals** wanting to improve their qualifications in the field of product development. The program will be of particular interest to graduates in

- ◆ mechanical engineering,
- ◆ industrial engineering,
- ◆ electronics engineering and
- ◆ industrial design.

To qualify for the program you should have a first degree (bachelor's or equivalent) in one of the above-mentioned subjects with an above-average grade. Graduates in other disciplines may qualify if are adequately versed in the required subjects.

Money

- ◆ **Tuition fee:** As from summer semester 2007 onwards the state of Baden-Württemberg introduces fees (€ 500 per semester) for all enrolled students.
- ◆ **Registration fee:** 93 € each semester. The registration fee includes a ticket for free using of regional buses and trains for the semester.

Applications

The course runs once a year, starting in the winter term in October.

- ◆ Application forms for admission to the master's program must be submitted by the date specified on the internet pages of the master program: www.pforzheim-graduate-school.de.
- ◆ Application forms are available on the internet pages of the *Pforzheim Graduate School*.

Further information

For further information about this master's program please contact:

Academic Director Tel.: +49(0)7231 28 66 44
Prof. Dr. Engeln mpe@hs-pforzheim.de

Fragen zur Zulassung und Immatrikulation beantwortet das Studentensekretariat:

Students' Office Tel.: +49(0)7231 28 60 22
Mr. Schwarz harald.schwarz@fh-pforzheim.de

If you would like a **personal consultation** please call the Academic Director for an appointment.

Information about the city of Pforzheim

The city of Pforzheim has about 120,000 inhabitants. It is situated between Karlsruhe and Stuttgart. The surrounding countryside and the hills of the Black Forest are perfect for a wide range of sporting activities. There is something for everybody amongst Pforzheim's cinemas, theatres, museums, exhibitions and cultural institutions. Also, in a city with around 480 pubs there are quite a few student bars.

You will find further information about Pforzheim University, the city of Pforzheim and the surrounding area on the following internet sites:

Pforzheim University www.hs-pforzheim.de

City of Pforzheim www.pforzheim.de