

## Product Development

Module Code: DLMBPDDT1

|                                      |                                       |                          |                |                                  |
|--------------------------------------|---------------------------------------|--------------------------|----------------|----------------------------------|
| <b>Module Type</b><br>see curriculum | <b>Admission Requirements</b><br>none | <b>Study Level</b><br>MA | <b>CP</b><br>5 | <b>Student Workload</b><br>150 h |
|--------------------------------------|---------------------------------------|--------------------------|----------------|----------------------------------|

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|--|--|--|---|
| <b>Semester / Term</b><br>see curriculum | <b>Duration</b><br>Minimum<br>1 semester | <b>Regularly offered in</b><br>WiSe/SoSe | <b>Language of Instruction<br/>and Examination</b><br>English |
|--|--|--|---|

### Module Coordinator

Prof. Dr. Dorian Mora (Product Development)

### Contributing Courses to Module

- Product Development (DLMBPDDT01)

### Module Exam Type

#### Module Exam

Study Format: myStudies  
Exam, 90 Minutes

Study Format: Distance Learning  
Exam, 90 Minutes

#### Split Exam

### Weight of Module

see curriculum

### Module Contents

- Production planning techniques
- Design tasks
- Product development approaches
- Digital product development and organizational aspects

**Learning Outcomes****Product Development**

On successful completion, students will be able to

- know the basic definitions and principles of (new) product development.
- understand the key skills in product development.
- discuss, differentiate, and select appropriate product development approaches with respect to a given scenario.
- work with digital product development tools and techniques like CAD, PDM and PLM at a basic level.
- develop own solutions and approaches to academic and practical questions.
- discuss, evaluate, and adapt different digital product development techniques and tools.

**Links to other Modules within the Study Program**

This module is similar to other modules in the field of Design

**Links to other Study Programs of the University**

All Master Programs in the Design, Architecture & Construction field

# Product Development

Course Code: DLMBPDDT01

| Study Level | Language of Instruction and Examination | Contact Hours | CP | Admission Requirements |
|-------------|---|---------------|----|------------------------|
| MA          | English                                 |               | 5  | none                   |

## Course Description

This course aims to provide basic work and problem-solving methods for the successful development of products. It introduces the definition of key design tasks and various alternative product development approaches such as flow-based, lean product development, and design thinking. Finally, the students will become familiar with the use of computer-aided design (CAD) tools and how they integrate into modern product development approaches.

## Course Outcomes

On successful completion, students will be able to

- know the basic definitions and principles of (new) product development.
- understand the key skills in product development.
- discuss, differentiate, and select appropriate product development approaches with respect to a given scenario.
- work with digital product development tools and techniques like CAD, PDM and PLM at a basic level.
- develop own solutions and approaches to academic and practical questions.
- discuss, evaluate, and adapt different digital product development techniques and tools.

## Contents

1. Introduction
  - 1.1 Basic Definitions
  - 1.2 The Product Development Process
  - 1.3 Indicators and Metrics
  - 1.4 Product Development Models
  - 1.5 Current Trends in Product Development
2. The Product Development Process
  - 2.1 Planning
  - 2.2 Concept Development
  - 2.3 Design
  - 2.4 Testing and Refinement
  - 2.5 Production and Ramp-up

3. Product Development Approaches
  - 3.1 Lean Product Development
  - 3.2 Design Thinking
  - 3.3 Human-Centered Design
  - 3.4 User Experience Strategy
  - 3.5 Open Innovation
4. Digital Tools
  - 4.1 Computer-Aided Design
  - 4.2 Computer-Aided Quality
  - 4.3 Product Data Management
  - 4.4 Product Lifecycle Management
5. Organizational Perspective
  - 5.1 Incremental, Platform, and Breakthrough Development
  - 5.2 Building Teams
  - 5.3 Political Issues in Organizations
  - 5.4 Distributed New Product Development

#### Literature

#### Compulsory Reading

#### Further Reading

- Kahn, K. B., Kay, S. E., Slotegraaf, R. J., & Uban, S. (Eds.). (2012). *The PDMA handbook of new product development* (3rd ed.). Hoboken, NJ: John Wiley & Sons. (Database: ProQuest).
- Ottosson, S. (2018). *Developing and managing innovation in a fast changing and complex world: Benefiting from dynamic principles*. Cham: Springer. (Database: ProQuest).
- Ulrich, K. T., & Eppinger, S. D. (2016). *Product design and development* (6th ed.). New York, NY: McGraw Hill.

**Study Format myStudies**

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|----------------------------------|-------------------------------|
| <b>Study Format</b><br>myStudies | <b>Course Type</b><br>Lecture |
|----------------------------------|-------------------------------|

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|---|--|
| <b>Information about the examination</b>  |  |
| <b>Examination Admission Requirements</b> | <b>BOLK:</b> yes<br><b>Course Evaluation:</b> no |
| <b>Type of Exam</b>                       | Exam, 90 Minutes                                 |

|                         |                      |                 |                  |                          |                    |
|-------------------------|----------------------|-----------------|------------------|--------------------------|--------------------|
| <b>Student Workload</b> |                      |                 |                  |                          |                    |
| <b>Self Study</b>       | <b>Contact Hours</b> | <b>Tutorial</b> | <b>Self Test</b> | <b>Independent Study</b> | <b>Hours Total</b> |
| 90 h                    | 0 h                  | 30 h            | 30 h             | 0 h                      | 150 h              |

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| <b>Instructional Methods</b>   |  |
| <input type="checkbox"/> Learning Sprints®<br><input checked="" type="checkbox"/> Course Book<br><input checked="" type="checkbox"/> Vodcast<br><input type="checkbox"/> Shortcast<br><input checked="" type="checkbox"/> Audio<br><input checked="" type="checkbox"/> Exam Template | <input type="checkbox"/> Review Book<br><input type="checkbox"/> Creative Lab<br><input type="checkbox"/> Guideline<br><input type="checkbox"/> Live Tutorium/Course Feed<br><input type="checkbox"/> Reader<br><input checked="" type="checkbox"/> Slides |

**Study Format Distance Learning**

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| <b>Study Format</b><br>Distance Learning | <b>Course Type</b><br>Online Lecture |
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|---|--|
| <b>Information about the examination</b>  |  |
| <b>Examination Admission Requirements</b> | <b>BOLK:</b> yes<br><b>Course Evaluation:</b> no |
| <b>Type of Exam</b>                       | Exam, 90 Minutes                                 |

|                         |                      |                 |                  |                          |                    |
|-------------------------|----------------------|-----------------|------------------|--------------------------|--------------------|
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