

**Dr. rer. nat. Frank J. Maile**

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**Innovation Management II  
(GMT6091)  
Syllabus  
Winter Term 2020/2021**

<b>Begin:</b>	Course starts on Friday, November 6 <sup>th</sup> , 2020
<b>Room:</b>	see semester schedule
<b>ECTS-Credits:</b>	5
<b>Level:</b>	Advanced Level II
<b>Prerequisites:</b>	Determinants of Innovation Performance
<b>Accessibility:</b>	Course is compulsory for 3rd semester MBA-IM students

**Learning Objectives:**

By the end of the course, the participants shall be capable to:

- understand the interdisciplinary approach of product development as a blend of marketing, design, and manufacturing incl. the basics of “Design Thinking”
- accelerate the product development time
- improve the design of their products to international standards and

reduce the risks for the market launch.

**Course contributions to the MBA program goals / learning outcomes**

Goal	Course Contributions to Goal	Assessment
1. <b>Responsible leadership in organizational contexts</b>		
2. <b>Creative problem solving skills in a complex business environment</b>	Discovery and analysis of innovation potential, development of innovative concepts	Participation in class, Presentation, Case Studies
3. <b>Research Skills</b>		
4. <b>Management of Innovation</b>	Ability to develop innovative strategies, create an innovation climate in organizations, detect and analyze innovation potential	Participation in class, Presentation, Case Studies
5. <b>Management of the challenges of global sustainability and awareness for social and corporate responsibilities</b>		

**Main course topics:**

- Design Thinking: Basics & Methodology
- Agility: Basics & Methodology
- Importance of Product Development
  - Scope of Development Efforts
  - Role of Structured Methods
  - Benefits of Integration
- Development Processes and Organizations
- Product Planning
  - Product development opportunities
  - Market competition
  - Technology
  - Portfolio planning
- Identifying Customer Needs
  - Introduction to Concept Development Phase and to Customer Needs
  - Benefits of Structured Methods
  - Review of Customer Needs Method
  - Discussion of Principles and Caveats
- Product Specifications
  - Translation of need expressed in language of customers to a measurable attribute
- Concept Generation, Selection & Testing
- Product Architecture
- Industrial Design
- Design for Manufacturing
  - Introduction to or Summary of DFM
  - DFM Principles and Caveats
- Prototyping
- Robust Design
- Patents and Intellectual Property
- Managing Projects

**Basic outline and organization:**

Between Nov. 6<sup>th</sup> and Dec. 12<sup>th</sup> 2020, the MBA students are welcome to attend the lectures in the above-mentioned subject.

In the lectures, there will be a balance between theory and practice through the emphasis on methods which represent a step-by-step procedure for the completion of tasks. In-class exercises, discussions, case studies and presentations will give the students the opportunity to demonstrate their capability of a) analytical competence and problem solving skills b) team work c) creativity and identification of innovation potential incl. problem solving.

**Grading:**

The grading is based upon the in-class participation & exercises (20%), presentations (40%) as well as the oral exam (40%).

**Course Materials (latest editions):**

1. Ulrich, K.T.: Eppinger, S.D.: Product Design and Development, New York.
2. Roberts, E.B.: Innovation Driving Product, Process and Market Change, MIT Sloan, Cambridge.
3. Juergens, U.: New Product Development and Production Networks, Berlin.
4. Gessinger, G.H., Materials and Innovative Product Development: From Concept to Market, Oxford.
5. Cross, N., Design Thinking, Oxford, Langenfeld K.,
6. Design Thinking for Beginners.
7. Williams T., Think agile

**Availability of the lecturer and teaching philosophy:**

Dr. Frank J. Maile  
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 Office hours: -  
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I care about your learning, therefore, do not hesitate to contact me by e-mail.

**Preliminary schedule for GMT 6091 – Innovation Management II**

Friday, Nov 6 <sup>th</sup> 2020 13:45 – 18:45  Saturday, Nov 7 <sup>th</sup> 2020 09:00 – 16:00	Introduction Importance of Product Development Development Processes and Organizations Product Planning  Identifying Customer Needs Product Specifications Introduction to Concept Generation Concept Selection & Testing
Friday, Nov 27 <sup>th</sup> 2020 13:45 – 18:45  Saturday, Nov 28 <sup>th</sup> 2020 09:00 – 16:00	Product Architecture Industrial Design Design for Manufacturing  Guest Lecture  Branding & Trademarks Patents & Intellectual Property Prototyping Robust Design
Friday, Dec 11 <sup>th</sup> 2020 13:45 - 18:45  Saturday, Dec 12 <sup>th</sup> 2020 09:00 - 16:00  Friday, Jan. 15 <sup>th</sup> 2021, 13:45 - 18.45	Design Thinking Basics, Case Study Student Presentations Part I  Product Development Case Study Student Presentations Part II  Oral Exams