



Research Area  
Technology,  
Innovation, Marketing,  
Entrepreneurship

**RWTHAACHEN**  
UNIVERSITY



# **MANAGING THE INNOVATION PROCESS (MIP) – ONLINE FORMAT**

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## **SYLLABUS**

RWTH Aachen University | School of Business and Economics  
**TIME** Research Area | Institute for Technology and Innovation Management  
[time.rwth-aachen.de/tim](http://time.rwth-aachen.de/tim) | Kackertstrasse 7, Aachen

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**SUMMER TERM 2021**



	<ul style="list-style-type: none"> <li>▪ be able to connect theories of innovation and models explaining innovation success with actionable knowledge for industry practice;</li> <li>▪ develop the ability to critically reflect common perceptions about innovation management and gain their own understanding of the factors making an innovation project successful.</li> </ul>
Literature:	Relevant literature will be made available on moodle.
Examination / Grading	<b>Written exam (100%).</b>
Participation Requirements:	Solid command of English.
Group Size:	Unlimited
Workload:	Approx. 40 hours of lecturing and exercises Approx. 90 hours of individual preparation
Type of Teaching:	Video lectures, exercises, Q&A sessions. The course will be managed via the e-learning platform Moodle.
Language:	All lectures and materials will be in English language.
Credits:	5 ECTS

You can find further information about the **MIP InClass** and the **MIP Online** format in the 10 min Video Teaser by Prof. Piller on the TIME website:

<http://www.time.rwth-aachen.de/cms/TIME/Studium/Veranstaltunguebersicht/~htdw/Veranstaltungstrailer-SoSe/>

## 2 COURSE CONTENT AND ORGANIZATION

The course comprises of weekly **recorded teaching videos** and a few **live tutorials**.

- **Teaching videos** will be streamed via Moodle. All **videos are available all semester long**, so you can learn on your own pace.
- **Exercises** are available throughout the semester and serve as optimal exam preparations. The case studies comprise previous exam content and will be discussed in the **live tutorials**.
- Dates of the **live tutorials**: Friday 10:30-12:00 on the following dates: Kick-Off: April 23, mid-term: June 25, wrap-up: July 16. The respective zoom link is available in the Moodle course room.

Modules	Video lectures
<b>Week 1</b>	<b>Introduction</b> <ul style="list-style-type: none"> <li>- Overview &amp; "Best of MIP" video</li> <li>- TIM Bootcamp Videos</li> <li>- The Big Picture Framework: Structuring the innovation process</li> </ul>
<b>Week 2</b>	<b>The Frontend of Innovation (FEI)</b> <ul style="list-style-type: none"> <li>- Trend analysis and opportunity recognition</li> <li>- Methods of trend analysis and opportunity recognition</li> </ul>
<b>Week 3</b>	<ul style="list-style-type: none"> <li>- Starting an innovation project and the Product Innovation Charter</li> <li>- Idea generation &amp; enrichment</li> <li>- Concept generation</li> </ul>
<b>Week 4</b>	<ul style="list-style-type: none"> <li>- Generating market insights: "Voice of the Customer" and ODI</li> <li>- Empathic Design: Observing customers and users</li> <li>- Co-Creation: Gathering ideas and concepts from the periphery</li> </ul>
<b>Week 5</b>	<b>Creativity theory and techniques</b> <ul style="list-style-type: none"> <li>- Part I: What is creativity?</li> <li>- Part II: Different schools of creativity</li> <li>- Part III: Amabile's Componential Theory of Creativity</li> <li>- Part IV: Creativity techniques</li> </ul>
<b>Week 6</b>	<b>Development Stage</b> <ul style="list-style-type: none"> <li>- Technical problem solving</li> <li>- Product protocol</li> <li>- Systematic problem solving</li> </ul>
<b>Week 7</b>	<ul style="list-style-type: none"> <li>- Experimentation as a core activity of problem solving</li> <li>- TRIZ (or TIPS): Theory of Inventive Problem Solving</li> <li>- Open Innovation</li> </ul>
<b>Week 8</b>	<b>Evaluating and Screening</b> <ul style="list-style-type: none"> <li>- Part I: Innovation is experimentation</li> <li>- Part II: Scoring models for internal selection</li> <li>- Part III: Concept testing with customers</li> <li>- Part IV: Rapid experimentation</li> </ul>
<b>Week 9</b>	<b>Launch and Nurture stage</b> <ul style="list-style-type: none"> <li>- Diffusion and adoption</li> <li>- Sales forecasting: ATAR model</li> <li>- "Crossing the chasm": Not all people are the same</li> </ul>
<b>Week 10</b>	<ul style="list-style-type: none"> <li>- A model of consumer reactions towards new products</li> <li>- Methods and principles</li> <li>- Ramp up of manufacturing</li> </ul>
<b>Week 11</b>	<b>Project Review &amp; Controlling</b> <ul style="list-style-type: none"> <li>- Project controlling and KPIs for innovation</li> </ul>
<b>Week 12</b>	<b>Recap</b>

### 3 REQUIRED READINGS AND CLASS MATERIALS

All required readings are available in the Moodle course room in the respective session. Moreover, you might want to read more on the topics covered in our class in one of the following books.

**These are optional readings:**

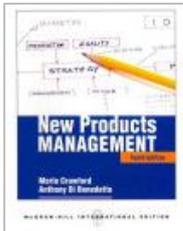
To clarify certain aspects, we recommend the following textbooks for this class:



The “Big Picture” framework that we use throughout the class is described in more detail in this short book (free download):

Hans Lercher. **Big Picture - The Graz Innovation Model**. 2nd edition, Graz 2020. Free download at SSRN: <https://ssrn.com/abstract=2965373>

*Note that the MIP class videos are based on the first edition (2017) of this book and use a slightly different representation of the Big Picture Framework. But the content is exactly the same.*



This customer-centric perspective on innovation management helped us to outline the class, and we refer frequently to it:

Merle Crawford & Anthony Di Benedetto. **New Products Management**, 10th edition, New York: McGrawHill, 2011.



Another good book we will frequently refer to is:

Steven Eppinger and Karl Ulrich. **Product Design & Development**, 5th edition, New York: McGrawHill, 2011.

## 4 Details on the Online Format

### Customize your class schedule

The MIP course has always been an interactive in-class core lecture on Technology and Innovation Management. However, as many master students need to adapt their studies to internships, semesters abroad, student jobs etc., we offered RWTH students with this class a way to follow this course completely online and to customize your class schedule: You can decide when to watch the lecture videos, when to read additional literature, and whether you want to engage in voluntary exercises and live tutorials. This offering is available since 2017.

### Video lectures, online case study assignments and peer-reviews

The Moodle e-learning course room will be used in the same way as video-centered learning platforms offering "Massive Open Online Courses" (MOOC), such as edX or Coursera. All lecture modules will be released at the beginning of the semester.

### Tutorial sessions for exam preparation

We offer a few tutorials – purely voluntary, no compulsory attendance – to discuss your questions, organizational issues, and most importantly, exemplary exam questions from previous years. The interactive tutorials will take place via zoom and are not recorded.

### The final exam

The final exam (computer exam in the Zuselab or at your own computer at home) covers all the lecture videos and all the additional material that is clearly indicated as "required readings". Optional readings, guest lectures, Q&A sessions, the texts between the videos including further examples are not exam relevant. However, they can serve as examples to illustrate your point.

In the summer term 2021, the course grade will be determined based on the following mode of evaluation: Option A: examination (100%, graded, 75 min.\*). There are no bonus points. Exam dates will be announced in RWTHonline.

### GovTech

Students of the GovTech program who only need a certificate of attendance (Teilnahmebescheinigung) have to submit a summary (300-350 word) of each chapter, i.e., The Frontend of Innovation (FEI), Creativity theory and techniques, Development Stage, Evaluating and Screening, Launch and Nurture stage, Project Review & Controlling – highlighting their individual focus of attention relating to their studies or career.