

Syllabus  
**BREM3113E Technology and Innovation Management**  
Prof. Dr. Claus Lang-Koetz (Pforzheim University)  
Prof. Dr Lawrence Dooley (Cork University Business School)

Summer Semester 2023

<b>Level</b>	Bachelor	
<b>Credits</b>	3	
<b>Student Contact Hours</b>	2	
<b>Workload</b>	90 hours	
<b>Prerequisites</b>	at least 45 credits from first phase of studies	
<b>Time</b>	Lecture blocks on selected Fridays 13.45h-18-45h and one Saturday, see schedule below	
<b>Room</b>	to be announced	
<b>Start Date</b>	24.03.23	
<b>Lecturers</b>	<b>Name</b>	Prof. Dr. Claus Lang-Koetz (Pforzheim University)
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## Summary

The objective of this course is to introduce students to the context, content and processes of innovation management and organisational change within modern businesses.

## Outline of the Course

The students are taught concepts and methods of technology and innovation management, the respective theoretic background, practical application and relevance for companies. The lecture is a mixture of a lecture by the two professors, group discussions and seminar: case studies with industry companies are conducted and presented by the students.

The students learn how an innovation management can be built up and which methods can be used for it. Topics include innovation goals and context (innovation imperative - commercial and societal, innovation processes, competitive positioning), recognising the opportunity (entrepreneurial creativity, sources of innovation and search strategies for innovation, knowledge and intellectual property) and finding the resources and selection (selection process models and issues, leadership (championing) and building the case + new product development (NPD), exploiting networks and strategic alliances, business model and value capture)

## Course Intended Learning Outcomes and their Contribution to Program Intended Learning Outcomes / Program Goals

### Learning Outcomes

Upon successful completion of this module, students should be able to:

- examine the role and importance of innovation in society.
- discuss the common driving forces and sources of business innovation.
- identify the key issues involved in the processes of creativity, innovation and commercialisation.
- critique an organisation's research and development portfolio.
- critically assess the decisions underpinning organisational transformation.

Program Intended Learning Outcomes		Course Intended Learning Outcomes	Assessment Methods	
After completion of the program the students will be able...		After completion of the course the students will be able...	Presentation	Essay
			25%	75%
			Individual	Individual
<b>1 Expert Knowledge</b>				
1.1	...to demonstrate their distinguished and sound competencies in General Business Administration.	...to examine the role and importance of innovation in society. ...to discuss the common driving forces and sources of business innovation. ...to identify the key issues involved in the processes of creativity, innovation and commercialisation.	x	x
<b>2 Digital Skills</b>				
<b>3 Critical Thinking and Analytical Competence</b>				
3.1	...to implement adequate methods in a competent manner and to apply them to complex problems.	...to critique an organisation's research and development portfolio based on independent research especially using literature analysis, desk research and expert interviews.	x	x
3.2	...to critically reflect and interpret findings and to develop comprehensive solutions for complex problems.	...to critically assess the decisions underpinning organisational transformation assuming theoretical and practical viewpoints, thematic lenses and apply thematic framework	x	x
<b>4 Ethical Awareness</b>				
<b>5 Communication and Collaboration Skills</b>				

5.1	...to express complex issues effectively in writing.	...to sum up their findings in a concise way in a written report		x
5.2	...to demonstrate their oral communication skills in presentations.	...to structure and present their findings in a final presentation	x	
5.3	...to work successfully in a team by performing practical tasks.	...to develop solutions to the project task in a project group of students together	x	x
<b>6</b>	<b>Internationalization</b>			
6.1	...to understand and explain business challenges in an international context.	...to look at the competitive environment in innovation from a practitioner's perspective	x	x

## Teaching and Learning Approach

The course is a mixture of a lecture, group discussions and seminar: Concepts, process and methods of innovation managements are taught and discussed with the students. Students independently work on a case study in groups (3-4 students each).

The two lecturers will be responsible for half of the topics each, but both of them will be present when necessary, especially for discussion, intermediate and final presentations of case studies.

The students are given a case study topic in order to learn how the theoretical concepts of the course can be applied in practice (see group project description below). They will organise their group project themselves and independently work on the topic. The lecturers give feedback and coach the students continuously, a time slot for that will be reserved in the lecture (at the beginning of the session) or in dedicated feedback sessions

In a preliminary presentation (5% of grade), they will present results already achieved and get more detailed feedback on the topics they addressed and how they can improve their results.

In between: short one-page progress report every three weeks (4 progress reports in the final submission including final submission) (report is mandatory, but no grade given).

They will then create a final presentation (20% of grade) and present it in class. Also, they will sum up their results and deliver it in a final report (15-20 pages excluding appendices) (75%).

Data from progress report and peer evaluation will be taken into account for individual assignments!

## Group Project element

In groups of 3-4 students, choose an organisation / company where quality data is accessible to you, undertake an innovation management case study related to the following headings. Students can choose and contact companies on their own. Lecturers will propose contacts to selected industry contacts in Germany as well.

Students will get insights by conducting one or several interviews with an expert of a company they choose themselves or a business contact provided by the lecturers. The interviews should be used to address the topics mentioned in the project outline below. The students can and should complement the interview insights with further own (desk) research (secondary data and publicly available information).

In their report, students are expected relate their results to the theoretical content of the chapters in the book used in the lecture (Tidd / Bessant, see below). They will also document interview questions and main answers in the appendix of their report. The logic and rationale of your argument should be explicit and insightful.

The project will be structured as follows:

### A. Background and innovation process:

1. Develop historical innovation backstory of firm (confirm company contact and date for interview in moodle)
2. Critique industrial ecosystem of the firm
3. Critique weaknesses: How would you destroy paradox

4. Propose innovation goals for future

Results of 1-4 (including first draft of description of the company) are handed in as part of the presentation planned then (see schedule)

#### B. Implementation critique:

5. Search and scan for opportunities across multiple sources (6-8 opportunities)
6. Decide on prioritisation (2 targets) and justify rational
7. Capability and Market adoption plan
8. Value appropriation/business model
9. Intended impact, risk factors

Results of 5-9 are to be handed in as a 2 page synopsis over moodle, due date to be announced

#### C. Conclusion and Appendix

10. Critique and Conclusion
11. Appendix (methodology, interview documentation, progress reports, etc.)

Results of 10-11 are to be included as part of final report – not to be handed in separately

#### D. Appendix: methodology used, documentation of interview questions and interview results

Final report due 09.06.2023 23.59h, hand in over moodle

Over the learning management system ("moodle"): Peer evaluation of individual learning (→ anonymous assessment of team) members and group progress reports

### **Literature and Course Materials**

The underlying textbook for the course is *Innovation and Entrepreneurship* by Tidd and Bessant (Wiley) (can be found in library – only one book per group, please).

Relevant academic articles will be posted to moodle.

### **Assessment**

The assessment will be made based on the following results:

- preliminary presentation (5% of grade)
- final presentation (20% of grade) and present it in class.
- final report (15-20 pages excluding appendices) (75%).

Data from progress report and peer evaluation will be taken into account for individual assignments!

Students must achieve a minimum of 50% to pass the module.

Penalties for Late Submission: Where work is submitted up to and including 7 days late, 10% of the total marks available shall be deducted from the mark achieved. Where work is submitted up to and including 14 days late, 20% of the total marks available shall be deducted from the mark achieved. Work submitted 15 days late or more shall be assigned a mark of "fail".

## Schedule

The lecture content will be delivered face-to-face according to the following planned schedule:

<b>Innovation Goals and Context</b>		
1	<u>Innovation Imperative - Commercial and societal</u>	24.03.2023 (Fr)
2	<u>Innovation process perspective</u>	24.03.2023 (Fr)
3	<u>Understanding the competitive positioning- Strategy literature</u>	24.03.2023 (Fr)
	<i>students got into contact with company and hand in some secondary research on company (products, market, competitors)</i>	14.04.2023
<b>Recognising the Opportunity</b>		
4	<u>Entrepreneurial Creativity</u>	14.04.2023 (Fr)
5	<u>Sources of Innovation and Search strategies for innovation</u>	14.04.2023 (Fr)
6	<u>Knowledge and intellectual property</u>	14.04.2023 (Fr)
7	<u>Exploiting Networks and Strategic Alliances</u>	15.04.2023 (Sat)
8	<u>Business model and Value capture</u>	15.04.2023 (Sat)
9	<u>Backup for remaining lecture content</u>	15.04.2023 (Sat)
	<i>time for students' research, interviews with companies etc.</i>	
	<u>Students present current results, clinic discussion</u>	05.05.2023 (Fr)
<b>Finding the Resources and Selection</b>		
10	<u>Selection process models and issues</u>	05.05.2023 (Fr)
11	<u>Leadership (championing) and building the case + NPD</u>	05.05.2023 (Fr)
	<i>students work independently on their project</i>	
12	<u>Virtual presentation with each group</u>	26.05.2023 (Fr)
13	<u>Virtual presentation with each group</u>	26.05.2023 (Fr)
14	<u>Feedback session for students</u>	26.05.2023 (Fr)
	<i>Deadline to hand in final report</i>	09.06.2023
<b>Student case studies</b>		
15	<u>Presentation of students case studies (20min per group max)</u>	23.06.2023 (Fr)
16	<u>Presentation of students case studies (20min per group max)</u>	23.06.2023 (Fr)
17	<u>Feedback session (lecturers to students and vice versa)</u>	23.06.2023 (Fr)
18	<u>Backup: feedback session (if not possible on Fr 23)</u>	30.06.2023 (Fr)

This lecture plan is indicative and subject to change.