



## Course Syllabus

# International Virtual Innovation Challenge

### Course Description

The International Virtual Innovation Challenge is a “Real Projects” seminar, a unique action-learning experience for bachelor students. Students work in international, interdisciplinary teams on real-life problems that matter. These real-life problems are innovation challenges contextualized by public, private or non-governmental organizations.

The student teams follow an innovation process to tackle the proposed challenges and prototype solutions using digital technologies. The course includes video lectures, dynamic weekly live sessions for content on Wednesdays, additional international exchange, expert keynotes and tutoring on Thursdays and three systemic agile coaching sessions to discuss progress and remote international teamwork.

### Course Goals

You

- learn hands-on intercultural and international collaboration skills.
- learn about innovation processes and entrepreneurial thinking.
- learn how to prototype using digital technologies.
- learn processes and agile organizational skills used in digital projects.
- increase your employability in a modern, global, digital work environment.

### Course Learning Outcomes

The team project and the course materials enable you to

- sharpen your intercultural and international collaboration skills.
- learn how to effectively work in remote teams.
- understand innovation processes.
- learn about ideation including need-finding, and research techniques.
- use agile project management techniques and tools.
- experience the power of digital prototyping.
- learn user testing.
- make effective presentations and pitches.

### Key Content

### Course Instructors

Dr. Audrey Stolze

(she/her/hers)

Entrepreneurship Educator and Head of Entrepreneurship Research at Strascheg Center for Entrepreneurship (SCE)  
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Prof. Dr. Gudrun Socher

(she/her/hers)

Computer Sciences and Mathematics Department and Head of MUC.DAI  
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### Course Assistant

Max Felix Meyer

(he/him/his)

### Agile Systemic Coach

Dr. Margret Klinkhammer

(she/her/hers)

Systemic and Agile Coach at Leadership Focus GmbH

### Class Duration

October 6 – December 14, 2021

### Class Meets

Online, regular Zoom meetings every Wednesday 5-7 pm CET

Additional live sessions with expert keynotes and tutoring on Thursdays (See schedule)

Teams book 2 agile systemic coaching sessions accordingly to availability (See schedule)

### Course materials

All course materials are online on the learning platform (<https://deepdive.school>) on a private course. No textbook required.

### Virtual Office Hours

please schedule via email



This course covers the following topics:

1. Innovation and Entrepreneurship Basics
  - Entrepreneurship
  - Innovation
  - Design Thinking
2. Digital Transformation Basics
  - Digitalization and Introduction to Digital Transformation
  - Fundamentals of Agile Project Management
3. Remote Team Work
  - Entrepreneurial Teams
  - Remote Team Management
  - Intercultural Communication
  - Team Canvas
  - Using GitHub for working in a remote team
4. Researching the problem domain
  - Open Innovation Theory
  - How to research
  - Need finding
  - Design
  - Creating Empathy Maps
5. Digital Prototyping
  - Low vs high fidelity prototyping
  - Prototyping tools
  - User testing
6. Business Modeling
  - Business Model Canvas
7. Presentation Skills
  - How to pitch
  - How to communicate with external partners
  - Storytelling



## Course Framework and Required Coursework

The International Virtual Innovation Challenge is an online-only “Real Projects” Seminar. You will find the schedule, the course materials and course assignments in the learning management system (<https://www.deepdive.school/>). Please create a user account on the platform using your full name and university e-mail address. You will be given access to our private course on October 1<sup>st</sup>, 2021. The course schedule and the course assignments guide you through the course materials.

The schedule includes a weekly live Zoom session (on Wednesday 5-7pm Central European Time (CET) which is during summer time 6-8pm Eastern European Time or 8-10am (Pacific Standard Time). Course materials are video lectures and reading materials. Quizzes will check your understanding of the videos and readings. Course assignments guide you through the innovation process. Assignments are team assignments. Teams are self-organized and follow agile project principles. Each team has access to two expert agile systemic coaching sessions, additional tutoring for the final assignment and 5 international live sessions with Urban Mobility experts from the European Institute for Innovation and Technology (EIT), a body of the European Union (<https://eit.europa.eu/>), as part of the international program EUAcceL.

Attendance is required for all live sessions. The zoom links you find on the learning management system. Please review all course materials before the live sessions and refer to the learning management system on how to prepare for the sessions. Please use the “discussion tab” in the learning management system for all your questions regarding the course materials.

## International Teams

All students are assigned to a team before the start of the course. The instructor select the teams such that all teams are international and multidisciplinary. You will have the opportunity to meet students from other teams during the weekly live sessions on Wednesdays and other international student teams from 7+ universities, during the 5 live sessions with EIT experts.

The teams are self-organized and we value a pro-active team spirit. Team members take pride in putting their best efforts into the teamwork. Conflicts can be addressed directly with the instructors or during the confidential agile systemic coaching sessions.

## Innovation Challenges

The innovation challenges are proposed by partner organizations. In Fall21 (winter semester 21/22), our innovation challenge is about Urban Mobility. The Deutsche Bahn Connect team, a strategic unit of the Deutsche Bahn proposes **“How might we effectively integrate folding-bike-systems with rail in urban and rural areas?”**.

Information and material about the challenge topic is available on the learning management system. The teams will review the material and start their own research on the topic. A representative from the challenge giving organization(s) will answer initial questions during the live Zoom sessions on week 3.



The teams will ideate to generate a contribution relevant to the challenge. The contribution is a solution that addresses parts of the challenge. The teams create digital prototypes to develop and communicate their contribution. Digital prototypes use digital technologies without the need for programming. Students from all majors engage in prototyping the team's challenge contribution. The challenge givers are available for feedback on week 7. Based on the feedback, the teams refine their prototypes and develop a business model until the end of the course. The teams also collect feedback through user testing. Refining the contribution is an iterative process following agile methodologies. At the end of the course in our last live session (week 10), all teams use their interactive prototype to pitch their challenge contribution to the partner organization. Additionally, the teams will pitch to the EIT experts on a final international event with teams from other universities.

## Tools

All course materials are provided on the learning management system. Student teams work on [github.com](https://github.com). GitHub is a repository for all artifacts created throughout the course. GitHub also provides agile boards to track progress, issues for tracking tasks, as well as a wiki to document team progress and results. Please register on [github.com](https://github.com) in the 1<sup>st</sup> week of the course if you do not have an account already.

## Grading

Your course grade is computed based on quizzes, the final presentation and report, which combines the class assignments. Quizzes are individually graded. You can retake every quiz up to three times. The final presentation and report grades are team-based and grading rubrics are shown for it. We expect all team members to put in their best efforts to the teamwork. Skills related to your majors/degree programs are valued.

%	Course Component
15	Quizzes to videos and readings (individual grade)
35	Final Presentation (to partner organization(s) on December 8, 5-7pm)
50	Final report (combined assignments on GitHub)
100	Total

We use the German grading scheme for the final grade. American letter grades are shown for comparison only. We assign grades on a straight percentage basis.

Final Grade Cutoffs (German grades and American letter grades in parenthesis)									
1,0 (A)	95%	1,7 (B+)	89%	2,7 (C+)	80%	3,7 (D+)	65%		
1,3 (A-)	92%	2,0 (B)	86%	3,0 (C)	75%	4,0 (D)	60%	5,0 (F)	<60%



Upon successful completion of the International Virtual Innovation Challenge, HM students and students from international partner universities will be awarded 5 ECTS credits by HM Hochschule München University of Applied Sciences at the end of HM's winter semester 2021/2022 (i.e. February 2022).

International students from partner universities are encouraged to have the credits recognized for their degree programs.

All students will receive a **certificate of participation** upon successful completion. Students that attend the 5 live session from with EIT experts will receive an **additional certificate of participation** from this international program backed by the European Commission.

## Administrative policies

### DEADLINES

Due dates for all coursework are shown on the learning management system. You submit all assignments in your team repository on [github.com](https://github.com). Your work is time-stamped automatically when you put it on [github.com](https://github.com). Late assignments receive no credit. Do NOT submit anything via e-mail.

If unexpected circumstances will prevent you from submitting your assignment before the deadline, you may request an extension. Send an email message to the instructor before the due time asking for an extension of the due date.

### ACADEMIC INTEGRITY

This course involves both individual quizzes and collaborative work. As a team member, you submit work that is your own. You respect your team members and you contribute to your team according to your best efforts. Your team will create a novel solution/contribution to a challenge. You research other solutions, but you cannot plagiarize an existing solution.

### GETTING ASSISTANCE

Please use email or the forum in the learning management system for any communication with the instructors or coaches. Feel free to address any questions or concerns.

### DROP/WITHDRAWAL POLICY

You may drop this course any time during the first 2 weeks. Leaving the course later is not fair to your team. Your team counts on you.



## Course Schedule

Week	Topics and Appointments	What is due?
Week 1 – The Basics	Welcome live session (October 6, 5-7 pm CET) Setting the stage: <ul style="list-style-type: none"><li>• introduction of challenges and teams</li><li>• introductory videos on innovation, digitalization and working in remote teams</li></ul> 1 <sup>st</sup> Agile Systemic Coaching Session (October 7, 8 or 11. Teams book one of the available timeslots on deepdive.school)	<ul style="list-style-type: none"><li>• Quiz 1</li></ul>
Week 2 – Challenge Kick-Start	Live session (October 13, 5-7 pm CET) During the week you learn about <ul style="list-style-type: none"><li>• The problem domain</li><li>• How to research</li></ul>	<ul style="list-style-type: none"><li>• Team canvas</li><li>• Quiz 2</li></ul>
Week 3 – Nailing the Problem	Challenge giver checkpoint (October 20, 5-7 pm CET)	<ul style="list-style-type: none"><li>• Problem statement</li><li>• Quiz 3</li></ul>
Week 4 – Ideating	Ideation workshop (October 27, 5-7 pm CET): Ideate your contribution  1 <sup>st</sup> Live-session with EIT Urban Mobility (October 28, 12-1:30pm CET): Introduction to the program and expert keynote	<ul style="list-style-type: none"><li>• Empathy map</li></ul>
Week 5 – Prototyping a Solution	Prototyping technologies – live session (November 3, 5-7 pm CET) During the week you learn about <ul style="list-style-type: none"><li>• Digital prototyping - how to?</li><li>• User testing</li></ul> 2 <sup>nd</sup> Live-session with EIT Urban Mobility (November 4, 4-6 pm CET): Student teams pitch their initial ideas and match for a tandem with a team from another university. Asynchronously, teams can collaborate by e.g. sharing research data or peer reviewing prototypes and business models to improve outcome.	<ul style="list-style-type: none"><li>• Storyboard</li></ul>
Week 6 – The Business side of things	Business modeling – live session (November 10, 5-7 pm CET) During the week you learn about <ul style="list-style-type: none"><li>• Business Model Canvas</li></ul>	<ul style="list-style-type: none"><li>• Quiz 4</li></ul>



	3 <sup>rd</sup> Live-session with EIT Urban Mobility (November 11, 4-5 pm CET): Student teams receive coaching from EIT experts and catch up with their tandem team.	
Week 7 – The Feedback Week	<p>Challenge giver checkpoint (November 17, 5-7 pm CET): Demonstrate sprint 1 release</p> <p>Possible 2<sup>nd</sup> Agile Systemic Coaching Session (November 18-19. Teams book one of the available timeslots on <a href="http://deepdive.school">deepdive.school</a>)</p>	<ul style="list-style-type: none"> <li>Sprint 1 release of prototype</li> </ul>
Week 8 – Teamwork, Iteration, and Pitching	<p>Reflection – live session (November 24, 5-7 pm CET) During the week you learn about</p> <ul style="list-style-type: none"> <li>Pitching your idea</li> </ul> <p>Your team will work on prototyping (Sprint 2).</p> <p>4<sup>th</sup> Live-session with EIT Urban Mobility (November 25, 4-5 pm CET): Student teams receive coaching from EIT experts to improve pitching.</p> <p>Possible 2<sup>nd</sup> Agile Systemic Coaching Session (November 26 or 30. Teams book one of the available timeslots on <a href="http://deepdive.school">deepdive.school</a>)</p>	<ul style="list-style-type: none"> <li>Quiz 5</li> <li>Business Model Canvas</li> </ul>
Week 9 – The Final Mile	<p>Getting the deliverables ready – live session (December 1, 5-7 pm CET)</p> <p>Your team will create Sprint 2 release of your prototype.</p> <p>Additional tutoring session to individually support teams with the prototype, final report and presentation (December 2, 5-7pm)</p>	<ul style="list-style-type: none"> <li>Sprint 2 release of prototype</li> </ul>
Week 10 – The Finishing Line	<p>Final presentation – live session (December 8, 5-7 pm CET)</p> <p>5<sup>th</sup> and Final Live-session with EIT Urban Mobility (December 9, 3:30-5:30 pm CET): Student teams compete in a final pitch event and receive advise from EIT experts</p> <p>Possible 2<sup>nd</sup> Agile Systemic Coaching Session (December 10 or 14. Teams book one of the available timeslots on <a href="http://deepdive.school">deepdive.school</a>)</p>	<ul style="list-style-type: none"> <li>Final presentation</li> <li>Final prototype</li> <li>Final report</li> </ul>