Real Projects DIGITALIZATION | Course Syllabus

Course Description

Real Projects Digitalization is a unique action-learning experience for bachelor students. Students work in interdisciplinary (and potentially international) teams on real-life problems that matter. These real-life problems are innovation challenges contextualized by a partner organization or project.

The student teams follow an innovation process to tackle the proposed challenges and prototype solutions using digital technologies. The course is a flipped-classroom, which means that the content is available via video lectures to be covered ahead of our dynamic weekly live sessions, on which we concentrate on teamwork with coaching. To add an international component to your learning journey, you will have the opportunity to join 5 international live sessions for exchange with international teams from other universities and extra coaching, through the Start For Future (SFF) program.

Course Goals

You
- 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.
- learn hands-on intercultural and international collaboration skills.

Course Learning Outcomes

The team project and the course materials enable you to
- 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.
- sharpen your intercultural and international collaboration skills.

Course Instructors

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Team Coach

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Class Duration
March 21 2024 – June 27 2024

Class Meets
SCE Creative Hall (R0.119)
every Thursday 10am - 1 pm

Additional international online live sessions with expert keynotes and tutoring on **Mondays** (See schedule SFF)

Course materials
All course materials are online on the learning platform (https://sce.academy) on a private course. No textbook required.

Key Content

This course covers the following topics:

1. Innovation and Entrepreneurship Basics
   - Entrepreneurship
   - Innovation
   - Design Thinking
   - Systems 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 Real Projects Digitalization is a blended "Real Projects" Seminar offered as a flipped-classroom. You will find the schedule, the course materials and course assignments in the learning management system (https://sce.academy/). 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 the first day of class. The course schedule and the course assignments guide you through the course materials.

The schedule includes a weekly live session at the SCE Creative Hall (on Thursdays 10am – 1pm) that we use to apply the course materials, which are video lectures and reading materials. Hence, our live sessions are teamwork time with coaching and expert impulses. 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 5 international live sessions with 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 Start For Future (SFF) program.

Attendance is required for the live sessions. Please review all course materials before the live sessions and refer to the learning management system on how to prepare for the sessions.

Student Teams

All students are assigned to a team before the start of the course. The instructor selects the teams such that all teams are multidisciplinary and if possible, international. You will have the opportunity to meet students from other teams during the weekly live sessions and other international student teams from 7+ universities, during the 5 live sessions of Start For Future.

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, and should, be addressed with the team coach or directly with the instructors.

Innovation Challenge

The innovation challenge this semester is around the topic of Artificial Intelligence.

Information and material about the challenge topic is available in the introduction section on the private online course. The teams will review the material and start their own research on the topic. 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. Based on feedback, the teams refine their prototypes and develop a business model until the end of the course through user testing. Refining the contribution is an iterative process following agile methodologies. At the end of the course in our last live session, all teams use their interactive prototype to pitch their challenge contribution at the end of the seminar to the instructors and a

Startup coach/investor. Additionally, the teams will pitch on a final international event of the SFF program, with teams from other universities.

Tools

All course materials are provided on the learning management system. Student teams work on 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 in the 1st week of the course if you do not have an account already.

Grading

Your course grade is computed based on reflection report, and the team's final presentation and report, which combines the class assignments. The reflection report is individually graded. 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
10	Reflection Report (Individual Grade for Journaling)
40	Final Presentation
50	Final report, which is the combined assignments on GitHub
100	Total

This seminar is a 5 ECTS course that counts towards the Certificate Entrepreneurial Thinking and Handling. For more information on this certificate, see https://www.hm.edu/studium_1/im_studium/mein_studium/studienprofil/udh/zertifikat_unternehmerisch.de.html .

Students from teams that attend the 5 live-sessions from Start for Future will receive a **certificate of participation** from this international program backed by the European Institute for Innovation and Technology (EIT) and 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. Your work is time-stamped automatically when you put it on 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

Phase	Topics and Appointments	What is due before the Live Session?
Introduction	Welcome live session **(March 21, 10am-1pm CET)** • Introduction • introductory videos on innovation, digitalization and working in remote teams • introduction of teams and team building	
	NO LIVE SESSION on March 28th due to Holidays.	
Discover & Explore	Live session to kick-start **(April 4, 10am-1pm CET)** • The problem domain • How to research • Digitalization and AI Trends	• Course Material: Introduction • **GitHub Repository setup** • **Upload Team canvas**
Discover & Explore	Live Session to Research **(April 11, 10am-1pm CET)** • Secondary and Primary data collection **1st Live-session Start For Future (April 8, 12-1:30pm CET)**	• Course Material: Discover & Explore
Transform	Live Session to Research **(April 18, 10am-1pm CET)** • Synthesizing the findings **2nd Live-session Start For Future (April 15, 12-1:15pm OR 4-5:15 pm CET)**	• **Research synthesis** • **Systems mapping**
Transform	Ideation workshop **(April 25, 10am-1 pm CET)**: • Ideate possible solutions **PLEASE NOTE this workshop is ONLINE via ZOOM**	• Course Material: Transform • **Problem Statement**
Create	Prototyping technologies – live session **(May 2, 10am-1 pm CET)** • Digital prototyping - how to? • User testing **PLEASE NOTE this session is at the PRECELERATOR (W-Bau)** **3rd Live-session Start For Future (April 29, 12-1:15pm OR 4-5:15 pm CET)**	• Course Material: Create • **Storyboard**
	NO LIVE SESSION ON May 9 due to Holidays.	
Create	Business modeling – live session **(May 16, 10am-1 pm CET)** • Business Model Canvas • Business Modelling with Impact **4th Live-session Start For Future (May 13, 12-1:15pm OR 4-5:15 pm CET)**	
Create	Mid-term presentation to instructors and guests **(May 23, 10am-1 pm CET)**: Demonstrate sprint 1 release to challenge giver and first insights into business model	• Course Material: Implement **Sprint 1 release of prototype** • **Mid-Presentation** (idea and business model development Status)
Create	Reflection – live session **(May 30, 10am-1 pm CET)** • Feedback Session Reflection • Coaching and Iteration • Your team will work on prototyping (Sprint 2) and your business model	
Create	Getting the deliverables ready – live session **(June 6, 10am-1 pm CET)** • Feedback on Business Model • Pitch training • Preparing Final Presentation **5th Final-session Start For Future (June 3, 3:30-5:30pm CET)**	• **Sprint 2 release of prototype**
	NO LIVE SESSION ON June 13. This week you work remotely with your team to finalize the course deliverables	
Implement	Final presentation – live session **(June 20, 10am-1 pm CET)**	• **Final presentation** • **Final prototype**
Implement	**Post Final Presentation and feedback, Teamwork to finalize report by June 27**	• **Final report** • **Individual Reflection (Journal)** • Course Evaluation