

Application Form

Innovative Teaching Award 2023¹

APPLICANT
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Members of the working group, if applicable²: 2
GENERAL INFORMATION
Course level bachelor's Course number: 4738 Semester: WS22/23 ECTS credits: 4 Course title: Industry & Innovation
Further information on the course: This course is part of the BA-Specialization "Entrepreneurship and Innovation", which can be attended in the Bachelor's Program. The number of participants is limited to 24, number of project partners is four.
If applicable links to the course's online environment: Here you can provide the jury with links to the contents of your course's online environment for review. https://learn.wu.ac.at/dotlrn/classes/modern/1788.22w/one-community?page_num=0 https://www.wu.ac.at/en/entrep/institut/news-archive/news-details/detail/ei-project-course-industry-innovation-wins-best-presentation-award-at-the-danube-cup-conference/

¹ Courses held during the 2022 calendar year (summer semester 2022, winter semester 2022/23) are eligible for the 2023 Innovative Teaching Award. Courses held over two semesters (WS 2021/22–SS 2022) can also be nominated.

² Please name all the people involved in the development of the course design. (ATTENTION: only people with teaching activities at WU or the Executive Academy in listed semesters are eligible.) The people named in this field will also receive the award in case of a successful application.

Information on application

Please use the template on the following pages to describe your course. The description should not exceed a maximum of 15 000 characters (including spaces).

In part 1, please insert a short description of your course design (maximum of 180 words). If your course design is selected for the award, the short description as well as the application form will be published on the WU homepage and in the Teaching & Learning Academy.

The detailed description of your course design (part 2) is divided into three parts:

- Section 2a is intended to give the jury an overview of your course.
- In section 2b we would ask you to elaborate on the teaching methods and didactic elements.
- Section 2c is intended to highlight the innovative nature of your course in relation to this year's focus of the award.

The questions mentioned in each section are intended to support you in the description of your course design.

Please complete the template directly in Microsoft Word and send it as a .doc or .pdf file to lehrenundlernen@wu.ac.at by **February 26, 2023**.

1. SHORT DESCRIPTION OF THE COURSE DESIGN (max. 180 words)

If your course is selected for an award, this text will be published on the WU website along with the submitted application form.

The course "Industry & Innovation" is held as part of the "Entrepreneurship and Innovation" Specialization (SBWL) as an elective project course.

Students in the course learn and train systems thinking through agile project management (Scrum) and hypotheses-driven innovation consulting. Given today's VUCA (volatile, uncertain, complex, and ambiguous) world, real-life innovation problems of industrial companies require a new problem-solving approach. Students in our course learn to consider such complex systems as a whole, rather than just focusing on individual parts. They structure the problem by analyzing and understanding the relationships between different parts of the innovation problem in the industrial context. They further iteratively develop and validate/reject hypotheses regarding the problem throughout the semester. In collaboration with two lecturers (acting as "Scrum Masters") and international coaches, students develop a holistic understanding of a complex innovation problem, develop effective solutions, and anticipate unintended consequences.

The pedagogy involves systems thinking, Scrum and hypotheses-driven innovation consulting, and real-life innovation challenges. Support for student groups is guaranteed through systematic guidance and bi-weekly "sprint" sessions by the instructors as well as feedback loops from other students and international coaches.

2. DETAILED DESCRIPTION OF THE COURSE DESIGN

2a.) Overview

- What are the learning outcomes to be achieved by the students?
- What are the content elements of the course and how is the course structured?
- What are the elements on which the final grade is based?
- How do you address the focus topic "Teaching in Teams: Innovative Collaborations and Partnerships" in your course?

Learning outcomes to be achieved:

During the course, students will take on the role of innovation consultants, working with their team to solve specific, highly relevant business problems. In tight cooperation with two lecturers (in the role of Scrum Masters - senior agile project managers), international experts/coaches, and project partners (start-ups, scale-ups as well as established industrial companies), students will

- develop a holistic understanding of important innovation challenges in the industrial sector
- learn to identify and analyze root causes of complex problems
- learn to structure complex problems by following agile project management principles
- learn to iteratively validate/reject hypotheses considering the business problem and define and develop an analytical approach adequate for solving it,
- develop and evaluate potential solutions, and anticipate unintended consequences
- present and defend these solutions in front of the (a) all E&I students at the E&I Touchdown and (b) the project partner

Each team receives continuous assessment and feedback from the lecturers in bi-weekly sprint sessions. International experts and coaches specialized in agile project management as well as hypotheses-driven consulting provide additional support throughout the semester (e.g., Bosch Business Innovation – Stuttgart, Germany; Accenture – Vienna, AT; IPlytics, Patent Database Research – Berlin, Germany).

Additionally, completing this course contributes to student`s ability to:

- efficiently collaborate and communicate with (a) team, (b) international coaches and (b) different key stakeholders on various managerial levels
- learn to give and receive constructive feedback
- emphasizes the use of data and experimentation to test and validate hypotheses about potential solutions (e.g., data visualization)
- improve oral, written and presentation skills using different techniques (e.g., pitch training)
- foster goal-orientation in a fast changing, complex environment

Content elements of the course/course structure:

The course consists of three main components that are supported by a solid theoretical foundation:

- Systems thinking
- Scrum (agile project management) and hypotheses-driven innovation consulting
- Real-life innovation challenges

The course is structured as follows:

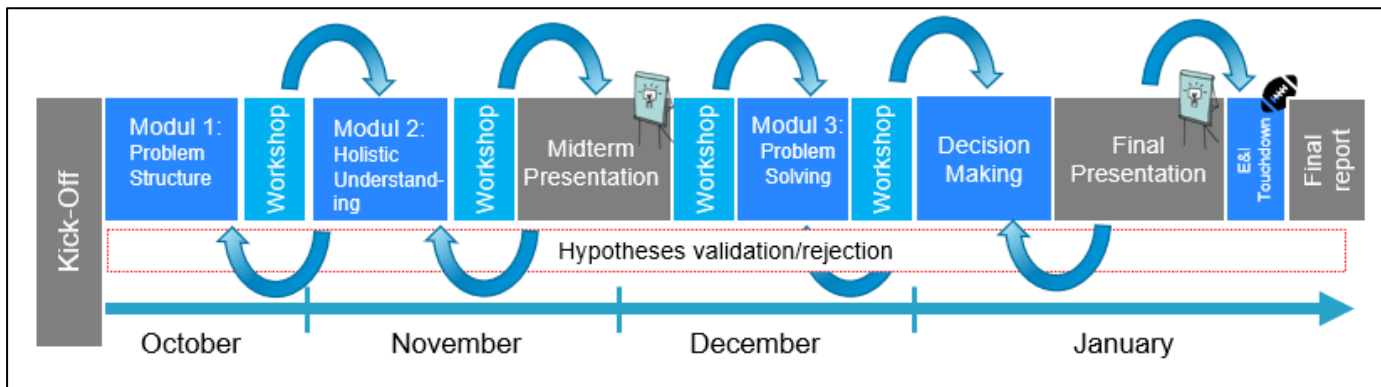


Illustration 1: Course structure

- Systems Theory: The principles behind our course**

The first (self-study) part of the course sets the theoretical foundation for approaching the subsequent real-life innovation challenge. This theoretical content consists of agile project management readings, textbook literature on general business administration, as well as systems theory and approaches. A written exam is held on the content **(10% of final grade)**.

- Finding the right problem: Problem structure and project proposal**

In order to better understand our project partners complex innovation challenge, student groups develop a first holistic "big picture" of its structure at the kick-off (semester opening). They further develop a deeper understanding of the relationships between different parts of the problem throughout the first two weeks by applying secondary research (e.g., data base research) and primary research (e.g., interviews). Based on this, students develop (a) first working hypotheses and (b) a Scrum project proposal describing main components of their agile problem-solving approach (e.g., roles, timelines, milestones/definition of done, backlogs) **(40% of final grade – including active participation throughout the semester)**.

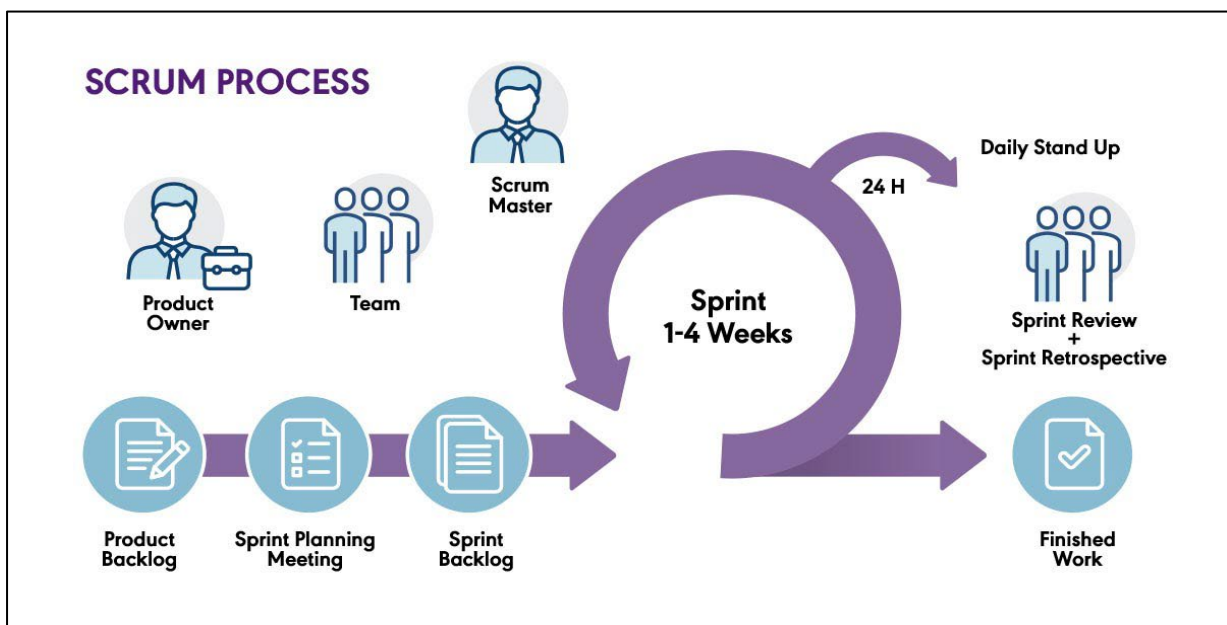


Illustration 2: Scrum Process

- **Learning by doing: The real-life innovation challenges**

Based on systems theory, students work on the project partners innovation challenge throughout the semester by following the Scrum framework and applying hypotheses-driven innovation consulting. The assignments of developing a holistic understanding of the problem as well as an effective solution, can be divided into two major parts: (1) a written report and (b) presentations. Both assignments are also graded at the middle of semester (mid-term report and presentation – 20% of final grade) as well as at the end of the semester.

- **Touchdown: Present your solution and convince your audience:**

Finally, student groups present their final solution in front of a jury and their fellow students **(5% of final grade)** as well as project partners **(15% of final grade)**. Students also review their team members at the end of the course (+/0/-% of final grade). In addition, the individual and groups’ learning experiences have to be reflected by the students through both, the course reflection **(5% of final grade)**, as well as the final student report **(20% of final grade)**.

Course grading overview:

Deliverable	Evaluation	Points
Literature test	Individual	20
Active participation, coachings, preparation, project management, peer review submission	Individual	50
Midterm Presentation	Group	20
Midterm Report	Group	20
Final Presentation	Group	30
Final Report	Group	40
Touchdown	Group	10
Reflection Paper	Individual	10
Total		200
Peer-Rating	Individuell	+/0/-

Illustration 3: Course grading

Focus on “Teaching in Teams: Innovative Collaborations and Partnerships”

The topic “Teaching in Teams: Innovative Collaborations and Partnerships” is covered in several forms in our course:

- **Students**

We provide opportunities for students to engage in collaborative learning activities, such as group projects or discussions, to reinforce the importance of teamwork and collaboration.

- **Real-life innovation challenges**

We collaborate with industry partners to provide students with real-world projects that they can work on. We further include international coaches which, depending on the innovation problem, support the student teams also throughout the semester. We even held dry runs of your mid-term and final presentations at the Accenture Future Camp in Vienna, where various senior consultants gave high level feedback to our student teams solutions. Further coaches are key representatives from Bosch, PwC or IPLytics.

- **New collaborative problem-solving approaches**

First, by fostering systems thinking, we promote collaboration and teamwork by encouraging students to work together to analyze and solve complex problems. By working together to understand and address complex systems, students can develop communication and collaboration skills that are essential for success in many fields.

Second, we teach agile, hypotheses-driven innovation consulting, which is a new and unique approach to innovation. This sets our course apart from traditional courses that focus on linear, step-by-step approaches to innovation. We see this as clear evidence for our innovative approach fostering innovative collaborations and partnerships in teaching at WU.

2b.) Teaching methods

- Which teaching methods do you use to help your students achieve the intended learning outcomes?
- What methods encourage international learning and teaching in your course?
- Why did you choose this/these particular method(s)? What specific advantages does it/do they offer in your teaching? What do your students learn through the use of this/these method(s)?
- In which way do the students benefit from the teaching methods used in the course?

Teaching methods used:

The course uses various online and offline learning methods to deliver the topics stated. This includes agile project management tools (e.g., Trello), readings, podcasts, videos, online meetings, group work, individual assignments, open class discussions and bi-weekly individual group sessions (sprints). Furthermore, each student group member has to present at least once per semester at mid-term, final presentation or the E&I Touchdown.

Methods that encouraged innovative collaborations and partnerships:

In combination, our methods foster systems thinking, which helps students to develop a more holistic and integrated approach to problem-solving, decision-making, and collaboration. We believe the synthesis between agile project management and hypotheses-driven innovation consulting approaches helps firms as well as students to develop and deliver new solutions within increasingly complex innovation environments. By iterating quickly and incorporating feedback from various key stakeholders, our agile student teams can test and refine hypotheses about potential solutions in a rapid and efficient manner. This makes Industry&Innovation to a new powerful course format.

How students benefit from the teaching methods used:

Based on the feedback we have received, students appreciated the effort we put in every lecture and bi-weekly sprint session. Additionally, they benefit from both: using an initial holistic view of a complex problem and its structure as well as learning iterative problem-solving approaches and methods to solve them. They further benefited from our own, as well as external experiences from our international coaches. Additionally, each project partner was offering our students an internship or traineeship position at the end of the course, underlying the relevance and importance of upcoming decisions makers being equipped with skills for problem-solving in a complex innovation environment. Finally, what is more, the clear course structure helped us to set clear expectations and eliminate sudden surprises.

2c.) Innovative character of the course

- In which dimension (see call section 2) do you place your submission?
- Which didactic elements of your course design do you consider particularly innovative with regard to the focus of this year's award "Teaching in Teams: Innovative Collaborations and Partnerships"?
- In which ways can your course design be adapted for other courses? Which didactic elements of your course can also be used in other courses?
- Which elements could be improved/reconsidered in a second edition of the course?

Submission dimension:

Collaborations with external actors:

<p>Which role do external actors play in your course and how do they provide an added value for the students?</p>	<p>By following systems theory, our external key stakeholders such as guest speakers, industry experts, coaches or project partners not only provide valuable insights and practical knowledge about their specific field of knowledge. They also bring current and relevant industry trends, which helps students to gain a better understanding of what is happening in the complex world beyond the classroom.</p> <p>Our external actors also provide networking opportunities for students by offering internships, job shadowing, or mentorship programs. This can help students build their professional network and get a better understanding of potential career paths.</p>
<p>How do you enable students to relate the covered topics to current societal/economic problems?</p>	<p>By using real-life examples to illustrate how the concepts being taught relate to current societal/economic problems. For example, we foster not only the use of scientific papers on the relevant innovation problem, but also news articles, videos, case studies, or any other relevant materials to show how these concepts apply in the real world.</p> <p>We further encourage students to think critically about how the concepts they are learning can be applied to current societal/economic problems. For example: we often use open-ended questions that require students to think deeply about the topics being covered and how they relate to the world around them.</p> <p>Additionally, group discussions are a great way to encourage students to share their ideas and perspectives on how the topics being covered relate to current societal/economic problems. By facilitating group discussions, we help</p>

	<p>students learn from each other and explore different viewpoints.</p> <p>Finally, involving various external actors, who are experts in their particular field, is a great way to help students relate the topics being covered to current societal/economic problems. External actors can share their experiences and insights, and answer students' questions about how these topics apply in the real world.</p>
<p>How do you promote the development of diverse, innovative problem-solving approaches in your course?</p>	<ol style="list-style-type: none"> 1. Foster a growth mindset: We encourage students to embrace challenges and view failure as a learning opportunity. We help them see the value in trying new approaches, taking risks and fail fast (by following agile principles). 2. Incorporate interdisciplinary perspectives: We draw on different disciplines, such as psychology, economics, and engineering, to provide a range of problem-solving approaches. 3. Provide feedback and support: We offer feedback and guidance throughout the learning process. Help students reflect on their approach and identify areas for improvement.
<p>As a teacher, how do you profit from the collaboration with external actors?</p>	<p>Overall, in our view, collaboration with external actors is a valuable source of support for teachers, enabling us to broaden our knowledge and skills, facilitating new access to new resources (e.g., lessons plans, teaching materials, technology tools such as IPlytics), and provide our students with a more enriching learning experience.</p>

Transferability:

Some elements that are transferable to other courses consist of the close integration of real-world innovation problems with agile project management and hypotheses-driven consulting, theoretical concepts of systems theory underlined with practical applications, and promoting a student-centered approach with bi-weekly sprint sessions.

Elements that could be improved/reconsidered:

We are committed to enhancing the course content for the upcoming winter semester 2023. Our goal is to provide an even more comprehensive collaborative teaching and studying experience for our students, which is why we are already discussing with the Technical University of Vienna (TU Wien) to (a) cover the topic of systems thinking from an engineering perspective in our course (external guest lecturer from WU) and (b) to offer the course as elective subjective to their industrial engineering students.

Furthermore, we will include some offers of the Digital Teaching Center at WU in our upcoming summer semester already. Students will have the opportunity to get a VR rhetoric training as well as to develop a short explanation video of their project for further social media communication (e.g., by including it in students' LinkedIn CV).

With this, we are taking the course to the next level by providing even further interdisciplinary teaching and studying experience and the opportunity to experiment with disruptive technologies.

Note: By sending the application form and documents, the applicant confirms that the course design has not received any other awards or grants.

Attachment: Please attach evaluation results, if available.