

Teaching and Learning UNITE!

Pedagogical Activity 3

Challenge@Polito
Student teams compete for
best solution to industry
needs

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University:	Politecnico Di Torino
Dates and times:	27 th April, 10-11.30 CET
Estimated workload:	1.5 hours
Maximum participants:	no limit
Format:	Webinar

Registration Details:

Registration link/e-mail/method	Mail to: riccardo.vesipa@polito.it Please provide the following information: Name & number of activity Your title, first name, and last name Your date of birth Your university Your department Lecturer in a UNITE Joint Program (yes/no) Attendance certificate needed (yes/no)
Registration deadline	20 th April 2021

Pedagogical activities are part of a good practice teaching and learning initiative to enhance our understanding of learning cultures in the UNITE! network of universities.



Overview and aim

Politecnico di Torino has developed and well tested in the last four years an innovative challenge based approach of learning for its master's students, through initiatives named **Challenge@Polito**. Challenges are innovative learning activities organized within the CLIK – *Connection Lab and Innovation Kitchen*.

The CLIK is an experimental teaching lab promoted by the Interdepartmental Laboratory for Technology Transfer (LabTT) with the support of the Department of Control and Computer Engineering (DAUIN) and the Technology Transfer and Industrial Liaison Department (TRIN). The CLIK proposes a new teaching approach to foster cross-pollination (**Connection Lab**) among state-of-the-art research, students' innovative ideas, different backgrounds, cutting-edge equipment, urban and territorial planning and businesses with a bit of fun and in a relaxed environment (**Innovation Kitchen**).

Starting from an industrial challenge brought in by a sponsor company, 30 students work grouped in 5-6 multidisciplinary teams, with different background and coming from all the degree courses, to search for new solutions and for the most innovative idea to solve the problem related to industrial dynamics. The activity with the students lasts 14 weeks supervised by a University professor and supported by a team of interdisciplinary mentors.

In the development phase, the teams can use numerous electronic devices (such as Arduino and Raspberry boards, sensors, actuators etc.) as well as two 3D printers useful for the eventual prototyping phase.

At the end of the activities, each team will make a presentation pitch of the project, followed by a moment of Q&A and demonstration of the prototype or solution. By promoting this activity, the University seeks to stimulate students' entrepreneurship and encourage development from a simple business idea to a real start-up.

During the academic year 2020/2021, several Challenges with different topic (about 12) are faced, involving about 300 students altogether, more than 20 Master's degree courses, 14 Professors and 60 Mentors

In the proposed UNITE! activity, we will show our experience at PoliTo. The focus will be first on the learning outcomes of such activities, and the students' skills that can be fostered. We will also briefly analyse the issues related to the management and organization of challenges.



Target group and prerequisites

Any teacher, faculty or lecturer in the field of architecture and engineering interested in implementing problem-solving activities related to real-life and business/industry related problems. Personnel involved in technology-transfer departments willing to implement student-industry interaction activities.

No prerequisites are needed.

Keywords

problem-solving activities, real-life problems, business/industry needs, multidisciplinary student entrepreneurship, start up, challenge, professor and mentor, learning by doing, Intellectual Property Rights.



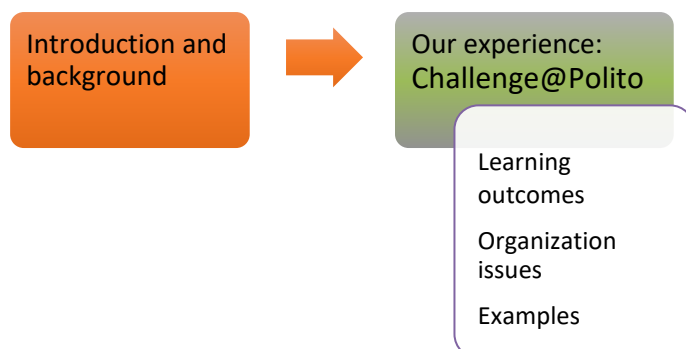
Learning Outcomes (LOs)

A successful learner will become aware of:

- the learning outcomes obtained by problem-solving activities related to real-life and business/industry related problems;
- the issues related to implementation and management of such activities.
- the methods for evaluating the work performed by students during these activities.











Activity overview









Content

1.  Introduction 
2.  Learning outcomes 
3.  Organization issues 
4.  Examples - presentation of case study 



Learning resources

-  Presentation 1 - introduction
-  Presentation 2 - Learning outcomes
-  Presentation 3 - Organization issues
-  Presentation 4 - Examples - presentation of case study