Prototyping

Subject area: Mechanical Engineering

University:	TalTech
Level:	MA2
Teaching mode:	hybrid: some students participate online, other students attend real-life
Instructor(s):	Andres Eek

Short description

This is a project-based subject where a team of students is given a task to solve an engineering or research problem. Team (3-4 students) is working on the problem during 1 semester. In addition to problem solving the major elements in the course are project planning, follow-up and presenting of the progress, as well as compiling a final written report.

Full description

This is an elective subject is for a master student who is studying electronics, mechatronics, computer engineering or communication engineering. Students work in groups of 3-4, each group selects an assignment/topic from the list of proposed topics. Each topic has a supervisor. Progress reviews are held bi-weekly. During the review, each group presents the achievements/problems during past two weeks, plans for the upcoming two weeks and overall status of the project. Participation in a group requires knowledge in e.g. hardware design (incl. mechanics), programming, mathematical modeling related to mechanics or physics, IoT technologies, etc. The course takes place in (experimental) hybrid form, where the EuroTeQ students will participate online.

Learning outcomes

At the end of the course, the participants will be able to:
- understand the challenges and benefits of an interdisciplinary team;
- plan and systematically follow up a project;
- connect theoretical knowledge and its application in real-life perspective.

General information

Contact hours per week:	4 (bi-weekly reviews plus meetings with topic supervisor)
Total workload:	6 ECTS x 26 hrs = 156 (in student hours for the whole course)

ECTS credits:	6
Language:	English
Course start date:	29 August 2022
Course end date:	20 January 2023
Add. info about start date:	Topic selection and group forming will take place during two first weeks of the course.
Weekly teaching day/time:	
Time zone:	CET +1 (Estonia, Israel)
Further information:	It is advisable to contact the course supervisor prior to signing up to the course.
Prerequisites:	The course is intended for second-year Master students in electronics, mechatronics, computer engineering or communication engineering.
Activities and methods:	Seminars, Group work, Self-study
Presence on campus:	

Final examination

Form:	Written report and final presentation
Date:	
Location/format:	online + Tallinn campus
Re-sit possibility:	yes
Transcript available:	end of semester
Add. info/requirements:	Participation in the Final presentation in Tallinn (Jan 2023) is recommended, but not mandatory.

Registration

To register for this course, follow the registration requirements of your **home university** as specified here: www.euroteq.eu/courses-registration.

Administration

Number of places:	Up to 2 EuroTeQ students per group. A group (up to 4 students total) must include 2 local students.

Minimum participants:	At least one group (3-4 students). In case there will be several groups, up to 4 EuroTeQ students can participate.
Internal course code:	IEP1010
Contact:	andres.eek@taltech.ee (Andres Eek, course supervisor)

This course is part of the EuroTeQ Engineering University joint course catalogue 2022/2023. This is a collaborative activity of the partner universities DTU, L'X, TU/e, TalTech, CTU, TUM as well as Technion. Students from these universities can participate in the offered courses. It is the responsibility of the student to check if you fulfil the requirements to participate in a specific course. Students are also advised to check with their home institution how to get recognition of the ECTS credits gained in courses of the EuroTeQ course catalogue. For further information about EuroTeQ Engineering University, visit www.euroteq.eu or get in touch with the above-mentioned point of contact.