Master's Department of Engineering Sciences

Name of the unit: Mini engineering project

Lecturer: Fabien Vérité (fabien.verite@sorbonne-universite.fr)
Course code: UM4RBM21
Student workload: 6h of lectures, h of tutorial sessions, h of lab sessions@
Credits: 3 ECTS

Specialization tracks:	- **E3A** :	☐ CIMES	☐ Syscom	☐ IPS
	- **AR** :	☐ ROBOT	☐ SI	☐ MeDH
	- **MECA** :	☐ MS2	☐ MF2A	☐ CompMech
		☐ ACOU	☐ EE	☐ EE APP

Semester offered: ☐ S1 ☒ S2 ☐ S3 ☐ S4
Language of instruction: ☐ French ☐ English
Targeted audience: ☐ Engineering Sciences students ☐ Other (specify):
Localization : ☒ PMC Campus ☐ Other (specify):

Course Overview

The aim of this teaching unit is to put into practice the design skills learned during the first semester and the current semester in order to propose a technological solution that meets a specific need. This teaching unit focuses on projects from fellow researchers working in the field of health, with people, or directly from the Sorbonne's social services and disability department. The main objective is to anchor these projects in realistic issues.
Keywords:

Prerequisites

Students should have previously acquired the following prerequisites to follow this course:

Intended Learning Outcomes

By the end of this course, students will be able to:

1. Conduct and summarize a needs analysis
2. Drafting of specifications
3. Design and build an intelligent system (sensors and/or actuators)
4. Evaluate the performance of a solution in response to specifications
5. Build a working prototype

Indicative Teaching Sequence and Methods

Week	C/TD/TP*	Content	Preparation	Learn. outc.
S1	C1	Introductory course to present the tools for needs analysis, project topics, and the resources available (2 hours)		AAV1, AAV2
S2	C2	Seminar on 3D printing (2 hours)		AAV3, AAV5
S3	C3	Seminar on prototyping (2 hours)		AAV3, AAV5
S4				
S5	Projet	Project review (4 hours) during which students present their analysis of requirements and the organization of the work ahead.		AAV1, AAV2
S6				
S7	Projet	Session at the fablab + Monitoring of project progress. (3 hours)		AAV3, AAV4, AAV5
S8				
S9	Projet	Session at the fablab + Monitoring of project progress. (3 hours)		AAV3, AAV4, AAV5
S10				
S11	Projet	Session at the fablab + Monitoring of project progress. (3 hours)		AAV3, AAV4, AAV5
S12				
S13	Projet	Session at the fablab + Monitoring of project progress. (3 hours)		AAV3, AAV4, AAV5
S14				
S15	Projet	Project presentation and demonstration (4 hours)		AAV1, AAV2, AAV3, AAV4, AAV5

* C/TD/TP respectively corresponds to lectures, tutorials and lab sessions.

Indicative Assessment of Intended Learning Outcomes (1st session)

Week	Individ./group	In-person/remote	Type of exam	Evaluated outcomes	Scale %
S5	Collective	In-person	Other	AAV1 AAV2	25 %
S15	Collective	In-person	Other	AAV3-AAV5	75 %

2nde session of exam

Session	Individ./group	In-person/remote	Type of exam	Evaluated outcomes	Scale %
2	Individual	In-person	Other	AAV3-AAV5	75 %
1	Collective	In-person	Other	AAV1 AAV2	25 %

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