

IDENTIFICATION

Course code : PROJ603IOT
ECTS : 3

DURATION

Lectures : 0
Tutorial classes : 0
Labs : 0
Total : 0

Project :
Personnal work :

ASSESSMENT

Report, presentations, project deliverables, completion of the project management tool, stakeholder evaluation.

TEACHING MATERIALS

LANGUAGE

English

CONTACT

Pierre Ugo TOURNOUX
pierre.tournoux@univ-reunion.fr

Modifié le : 14 juillet 2026

UE : UE6-IOT

COURSE : Supervised Project + Skills Assessment
(English/Internship)

SCOPE OF THE COURSE

OBJECTIVES

The aim of this course is to place engineering students in a project-based approach and apply the various concepts studied in the first-year engineering cycle modules.

COMPETENCE AND SKILLS

- Organize the project using project management methodologies
- Write technical documentation and design presentation materials in French and English
- Apply a methodology and formalism to design and develop an application

PROGRAM

Types of topics

Based on a problem proposed by a partner company or administration of ESIROI, engineering students must propose a solution addressing the issue. Students must define a jointly developed specification with the company, prioritize features, and associate them with tasks, milestones, and deliverables using a project management method. Although existing IS processes of the company must be considered, proposed topics require the implementation of a complete solution. *E.g.* developing a Moodle QCM plugin does not meet this criterion, whereas proposing a pervasive object for thermal comfort assessment calls for a far more comprehensive solution including sensor development, data processing, visualization via a web interface, addressing privacy issues, and securing the entire data collection, processing, and storage chain. Thus, students are expected to integrate and articulate elements from each of the domains taught at ESIROI (CYBER, DATA, DEV, SYS/RES, and IOT) and enable the assessment of INF block competencies.

Specification and planning

Based on the specification, students will estimate the cost associated with development, deployment, and operation of the solution. This cost includes labor (man-months) and materials. The cost may include the carbon footprint across the entire solution lifecycle according to methodologies covered in class. The specification and initial cost estimate will be assessed.

Soft skills

Students will interact with the company and must pay particular attention to their communication. In writing, students must ensure the quality of their writing, clarity of expression, and use of language appropriate to the professional context. They must also be mindful of the presentation and structure of their documents, ensuring they are well-organized. Where possible, students should use project tracking tools (e.g., GitLab, GitHub, Jira ...) to interact with the company but must first adapt to the project stakeholders' habits and technical level. In oral presentations, students must practice delivering their work clearly, concisely, and convincingly before each meeting. They must also be able to respond

to company questions in a relevant and professional manner. Students' "soft skills" are assessed throughout the project.

Project management

Students are expected to leverage project management tools to define deadlines, objectives, ongoing and upcoming tasks. Meetings with partners must align with well-defined project stages (milestones, features, technical tasks) and have clear objectives announced in advance, accompanied by documents enabling participants to prepare and be effective during the meeting. The project management tool must be updated following the meeting. Additionally, each meeting must result in clear and concise minutes, possibly accompanied by detailed technical notes. Students will be assessed on the project management aspect and the quality of their written contributions in the project management tool.

Group members, roles, and competencies

Projects are carried out by groups of first- and second-year engineering students (3A and 4A). Second-year students are expected to take a more leading role in project management. They will serve as project managers but must still take on technical tasks. First-year students must progressively build their project management skills to eventually become autonomous when second-year students leave 2 to 4 months before the project's end.

Deliverables

Projects are associated with a minimum of four presentations :

- Kick-off presentation (specification, cost estimate, task breakdown, milestones, and schedule)
- Mid-term presentation (mid-December)
- Presentation upon departure of second-year students (end of March)
- Final project presentation (end of May)

These presentations are internal to ESIROI, but the project stakeholder is invited. However, the stakeholder may request additional presentations for the company or a broader audience.

At the end of the project, first-year students must write a report that may be shared within ESIROI, the company, and, if possible, externally. This report may accompany the student's portfolio.

Support

When necessary concepts for project implementation have not been covered in prior teaching modules, the teaching team may provide short introductory sessions on the relevant concepts and technologies. The teaching team may also involve external contributors when they are particularly relevant to the use of a tool. The teaching team is not required to address potential technical shortcomings. In such cases, students must self-train, assess whether they have the time to do so, and, if necessary, evaluate alternatives.

Additionally, students may request support from the teaching team for :

- Technical support
- Support on solution design

- Support on project management
- Support on report writing and presentation materials

The quantity and type of support requested by students will impact the competency levels validated as part of this project.

Competency assessment modalities

To be defined.

0.0.1 Workload

An average of 4 hours per week is expected throughout the year. Specific weeks are identified in the timetable as being primarily dedicated to projects to minimize context switching between different required or optional student activities.

BIBLIOGRAPHY

—

REQUIREMENTS

All modules from S5 courses.