

## CU 9.13: RESEARCH AND DEVELOPMENT PROJECT

**Director of studies: Vincent NICOLAS**

### General CU objectives:

The end-of-studies project constitutes a professional situation that aims to develop:

- the know-how of the project manager-engineer,
- the generic skills expected of an engineer (CG1 to CG7 of the ENSTIB reference system),
- ENSTIB specific skills on a theme related to one or more of the 4 courses (CP):
  - Industrial systems engineering,
  - Construction,
  - Energy,
  - Bio-based materials sector.

The School's teacher-researchers offer research and development topics on industrial or scientific issues.

Students form pairs and choose subjects. The CU supervisor will decide on the subjects' final attribution.

Subjects proposed by students or industrial partners may be accepted after validation by the academic team and acceptance by a teacher-researcher to supervise the project.

The completion of a research and development project with an industrial partner gives rise to a contract drawn up between the company and ENSTIB to determine the deliverable, the cost to the company and set the rules of confidentiality and intellectual property. The financial contribution includes access to training and R&D platforms as well as management and operating costs.

Students will use, as a minimum, the time slots in the schedule: ½ day per week and 6 full weeks.

Supervision is systematically provided by a teacher-researcher from ENSTIB.

### Consists of:

- Module 1: Skills related to R&D work
- Module 2: Project valuation skills

### Hourly volume

<i>In-person</i>	<i>Self-directed study</i>
<b>2.50 H Lectures</b>	<b>282.00 H</b>
<b>20.00 H Tutorials</b>	
<b>0.00 H Practicals</b>	

### Positioning of the CU in the School reference system:

4-hour presentation  
4-hour GP training  
2-hour BU tools

### Units of skills

In accordance with the RNCP sheet

## CU 9.13: RESEARCH AND DEVELOPMENT PROJECT

Module 1: Skills related to R&D work
<b>Session leaders:</b> Vincent NICOLAS (PRD Manager and Project Management Coordinator), Gérard XOLIN and Denise Choffel (Project Management Coordinator), research and development project supervisors: teacher-researchers and/or manufacturing company representatives, Béatrice AUGIER (BU ENSTIB)
<b>Teaching assistants:</b> Depending on the project
<b>Prerequisites:</b> Teaching Units semester 5 to semester 8
<b>Teaching materials:</b> Reading list– Arche Page– Reference books– Project– project sheet and others depending on the project
<b>Assessment methods:</b> individual and in groups File– Bibliography– Others, depending on the project

## Methods for controlling and validating knowledge

	Coefficient in the CU	Observations
<b>WORK GRADE</b>		
Awarded by the supervising teacher-researcher.	1	The two students in the pair do not necessarily receive the same grade. The supervising teacher-researcher assesses the acquisition of domain-specific research and development and project management skills (see work assessment grid).

## CU 9.13: RESEARCH AND DEVELOPMENT PROJECT

### Module 2: Project valuation skills

**Session leaders:**

Vincent NICOLAS (PRD Manager and Project Management Coordinator), Gérard XOLIN and Denise Choffel (Project Management Coordinator), research and development project supervisors: teacher-researchers and/or manufacturing company representatives, Béatrice AUGIER (BU ENSTIB)

**Teaching assistants:**

Depending on the project

**Prerequisites:** Teaching Units semester 5 to semester 8

**Teaching materials:** Reading list– Arche Page– Reference books– Project– project sheet, others, depending on the project

**Assessment methods:** individual and in groups

Viva – Report– File– Bibliography– depending on the project

### Methods for controlling and validating knowledge

Coefficient in the CU	Observations
--------------------------	--------------

REPORT GRADE		
Awarded by the reader of the report (ENSTIB teacher-researcher other than the supervisor)	1	The reader is appointed by the CU supervisor; the reader is required to assess the form of the report.

VIVA GRADE		
Awarded by a jury composed by the CU supervisor and comprising at least 3 teacher-researchers.	1	The two students in the pair do not necessarily receive the same grade. The Viva grade is the average of the marks given by all the members of the jury, regardless of its size but which must be greater than or equal to 3. The jury scores the substance and composition

POSTER GRADE		
Awarded by a jury composed of teacher-researchers	0.50	A jury composed of several ENSTIB teacher-researchers assesses the ability to summarise the work done as well as the general presentation of the poster.

## CU 9.13: RESEARCH AND DEVELOPMENT PROJECT