

**INTERPRETATION**

*This is a nonbinding translation of the Regulation. If any question regarding the meaning and interpretation of the present regulation arises, the Portuguese Version should prevail.*

**REGULATION FOR THE IMPLEMENTATION OF  
CAPSTONE PROJECTS: JUNO/SCOPE****Article 1**

## Scope

The CAPSTONE Projects, in the JUNO and SCOPE modalities, aim to consolidate, integrate, apply and reflect the learning of several Curricular Units (CUs) of 1<sup>st</sup> and/or 2<sup>nd</sup> cycle through multidisciplinary group work and based on real problems or challenges and that can be studied and solved by master's or undergraduate students.

These differ from the other types of 1<sup>st</sup> or 2<sup>nd</sup> cycle Integrative Projects as they involve real and complex problems whose solution requires the formation of teams of students with different backgrounds, typically from different IST courses. Although “capstone” can be translated as “integrating project”, in order to differentiate the different types of projects, the following designations will be used to refer to Integrating Projects in the CAPSTONE modality:

- a) JUNO (JUnior capstoNe prOject) - 1<sup>st</sup> Cycle Integrator Project (PIC1) in the CAPSTONE modality;
- b) SCOPE (Senior CapstOne ProjEct) - 2<sup>nd</sup> Cycle Integrator Project (PIC2) + Dissertation in the CAPSTONE modality.

In the case of courses without 12 ECTS foreseen from PIC1 or PIC2, it is up to the coordination to find alternative forms of accreditation that allow their students to carry out CAPSTONE projects. As an integral part of the JUNO and SCOPE projects, 3 ECTS are offered in Innovation and Entrepreneurship, as defined by the Eventual Commission for Entrepreneurship and Innovation, appointed under PERCIST, as well as a series of seminars relevant to the topics of the projects to be carried out.

JUNO and SCOPE projects can be business-inspired (leveraging the experience of the IST partner network and the many isolated examples of professors' business collaboration), be proposed by end-users (public institutions, non-governmental organizations or research units) or result from entrepreneurial actions by the students themselves or with a history at IST (e.g. Formula Student, PSEM, etc.).

**Article 2**

## Accreditation

1. The 1<sup>st</sup> Cycle Integrative Project CU (PIC1), in the JUNO modality, takes place at the end of the 1st cycle (5th or 6th semester), with a weight of 12 ECTS.
2. The SCOPE IST project is defined for 42 ECTS, including 12 ECTS that will be carried out within the scope of the 2nd cycle Integrator Project UC (PIC2), and the remaining 30 ECTS within the scope of the Dissertation UC.

**Article 3**

## Constitution and Role of the CAPSTONE Commission

1. The CAPSTONE Commission will include:
  - a. The Deputy Director for CAPSTONE Projects, which he chairs;
  - b. A professor considered a specialist in this type of project.
  - c. A representative of the Scientific Council;
  - d. A representative of the Pedagogical Council;
2. The deputy director and the specialist professor are appointed by the President of IST;
3. The functions of the CAPSTONE Committee are:
  - a. To consider projects/dissertations with CAPSTONE potential received by TT, departments and research units.
  - b. To select, in partnership with the Course Coordinators, the Degrees and Masters to whom each project can be offered.
  - c. Coordinate the application actions and selection of students for each project;
  - d. Coordinate the selection and accreditation of advisors for project supervision;
  - e. Coordinate the preparation and monitoring of training in Innovation and Entrepreneurship, as well as the definition of the associated faculty;
  - f. Coordinate the implementation of the evaluation of CAPSTONE projects, according to this regulation;
  - g. Coordinate the monitoring teams of the CAPSTONE groups;
  - h. Organise an annual event to present CAPSTONE projects.
  - i. Produce an annual analysis report of the two semesters to present to IST bodies, namely Management Council (CG), Pedagogic Council (CP) and Scientific Council(CC).
4. The CAPSTONE Commission has a 2 years term.

#### **Article 4**

##### CAPSTONE Project Clusters

1. CAPSTONE projects will be organised into thematic clusters;
2. Each cluster must be assigned a Coordinator and a Project Management Specialist;
3. Each JUNO project cluster is composed of a maximum of 30 clusters;
4. Each SCOPE project cluster is composed of a maximum of 9 groups;
5. Each group has a constitution of 3 to 5 students, from at least 2 different courses;
6. Each group will have two advisors from different departments and/or research units.
7. At least one of the advisors in each group must be a professor or doctoral researcher at IST.

#### **Article 5**

##### Appointment, Functions and Accreditation of the Teaching Service of the Cluster Coordinators

1. Cluster coordinators are appointed by the CAPSTONE Committee.
2. The functions of the cluster coordinator are:
  - a. Coordinate the work of the group;
  - b. Manage the organisation of a series of thematic seminars given to the group (1h/week);
  - c. Coordinate the evaluation of projects.

Each cluster coordinator is awarded, every six months, 2 academic credits for the functions performed in a cluster of CAPSTONE projects.

#### **Article 6**

##### Appointment, Functions and Teaching Service Accreditation of Specialists in Project Management

1. Specialists in Project Management will be defined by the CAPSTONE commission, after consultation with the Department of Engineering and Management.
2. The functions of specialists in Project Management are:

- a. Monitoring the group's work plan, ensuring that it is in line with good Project Management practices;
- b. Participate in project evaluation.

Every semester, each Project Management specialist is awarded 2 academic credits for the functions performed in a cluster of CAPSTONE projects.

#### **Article 7**

Nomination, Functions and Accreditation of the Teaching Service associated with the teaching of 3 ECTS in Innovation and Entrepreneurship

1. 3 ECTS in Innovation and Entrepreneurship, as defined by the Eventual Commission for Entrepreneurship and Innovation, appointed under PERCIST, are offered as an integral part of the JUNO and SCOPE projects.
2. It is expected that each execution of this lecture will include a maximum of 120 students, by thematic cluster.
3. The definition of the faculty is proposed by the Department of Engineering and Management, after hearing the other departments and Central Bodies, namely Management Council (CG), Pedagogic Council (CP) and Scientific Council (CC).
4. The faculty is responsible for teaching lectures and evaluating the contents related to the 3 ECTS of Innovation and Entrepreneurship, within the scope of its application to the project to be developed.

#### **Article 8**

Appointment, Functions and Accreditation of Teaching Services for Advisors

1. The work is guided in a tutorial way by two professors, or doctorate researchers from IST, or by experts recognised as such by the scientific committee of the course, designating these as CAPSTONE project advisors.
2. Whenever one of the advisors is external to IST, it is mandatory that the other supervisor accompanying the project has a link to IST.
3. The advisors' duties are:
  - a. Periodically monitor the work carried out by groups of students, commenting and reporting on the work and the way in which it is being developed;
  - b. Guide students to search for solutions to technical and scientific problems that the group encounters;
  - c. Manage available funding, if any, to streamline the project submitted specifically;
  - d. Inform the cluster coordinator about the status of development of the projects they monitor;
  - e. Participate in the Evaluation of Projects.
4. The selection of advisors, for each project, can be done in the following alternative ways:
  - a. Prior to the selection of projects, if teachers or researchers are responsible for offering a CAPSTONE project. These advisors may be invited to be, additionally, advisors of 2 other projects, if they fall within their area of expertise.
  - b. After the selection of projects, depending on the specialties required by them, different ways can be followed for their selection:
    - i. If there is prior contact between the company, or the group of students, proponents of a CAPSTONE project and faculty or researchers from IST and associated research centres, these will be preferably selected to guide the project in question. These advisors may be additionally invited to be advisors for another 2 projects, if they fall within their area of expertise;
    - ii. Based on the group of members appointed by the departments (advisors), one per scientific area of each department or research unit, to supervise CAPSTONE projects.

5. Each advisor responsible for supervising the students' work must ensure an average contact time of 2 hours per week (tutorial hours) with each set of 3 projects, attributing 2.5 hours of academic credits for this monitoring, either in the case of JUNO or SCOPE projects. In exceptional cases where the supervisor is responsible for a number of projects different than 3, the allocation of credits will be proportional to the number of supervised projects.
6. Each advisor involved in advising projects proposed by companies may receive funds, within the scope of their Results project at IST, as an alternative to accrediting the corresponding teaching service.

### **Article 9**

#### Preparation of a JUNO and SCOPE Project advisory pool

1. Each department will pre-select 1 professor or researcher per scientific area to integrate the CAPSTONE project supervisors pool, when distributing the teaching service in each department. These members will be used or not according to the specific needs of each group of projects.
2. Each of the 10 departments at IST will receive a bonus of 5 annual credits in relation to the departmental grant of academic credits provided for in the RSD, per cluster of CAPSTONE projects, in order to link 2 members per year to functions of advising CAPSTONE projects. The attribution of these credits to selected professors will only occur, each year, in case of effective supervision of CAPSTONE projects.

Any professor or researcher proposing a CAPSTONE project will automatically become part of the department's advisory pool, during the execution of the project.

### **Article 10**

#### Submission and validation of JUNO and SCOPE projects

1. The proposals for JUNO and SCOPE projects can be made by: a) professors and researchers from IST or from its own and associated units, via FENIX; b) IST students (they have to find an advisor who submits the proposal in FENIX); or c) external entities, via the platform created for this purpose. When proposing a work, the proponent is obliged to advise the work, if there are groups of interested students who meet the pre-established requirements.
2. The institutions proposing each project are also responsible for: a) ensuring the availability of information, resources, financing as provided for in Article 12, and timely follow-up necessary for the preparation and development of the project; b) make available, for direct involvement, at least one element of the proposing institution in the management and operation of the project; c) agree with and comply with this regulation.
3. The submission of JUNO and SCOPE project proposals is formalised, in a separate form, available in electronic format on the FENIX system, by the respective proposing professors or researchers, or on the platform created for the purpose, by external entities, until the beginning of the first period of the semester prior to its execution, according to the academic calendar in force. The submission form for each proposal includes the set of requirements considered essential for the proposed work to be successful.
4. The CAPSTONE Commission is responsible for verifying that the objectives of the proposed works are clearly stated and fall within the CAPSTONE project category, validating or not the proposal or, eventually, communicating with the proposing entities with a view to its readjustment, if necessary.
5. The coordinator of each Bachelor's or Master's degree to whose students the CAPSTONE project is intended to be offered is responsible for verifying whether or not the project is in line with the objectives of the course, and approving or not its offer to students of that Bachelor's or Master's degree.

### **Article 11**

#### Submission of JUNO and SCOPE projects by entities external to the IST ecosystem

1. In the case of JUNO / SCOPE projects submitted by for-profit institutions, the payment of a sponsorship amount is due, whose reference value is defined annually by the Management Council (CG), after hearing the CAPSTONE Commission.
2. The CAPSTONE Commission, together with the IST Legal Support Unit, is responsible for formalising the particular terms of the agreement between the external entities and IST in what is omitted in the IST Intellectual Property Regulation or in the confidentiality rules, ethical issues or other that become necessary to clarify in the context of CAPSTONE.

### **Article 12**

#### JUNO project evaluation

1. Juno project evaluation includes:
  - Continuous assessment with 3 moments of public exposure (initial pitch + interim presentation + final presentation);
  - Evaluation of elements submitted for evaluation, which should be oriented towards the development of a portfolio (website, report/poster, presentation, promotional video);
  - Peer review.
2. The evaluations, in their various moments, must be carried out by a jury of professors (at least two professors, including one of the project advisors).
3. The weights of the different evaluation components of the previous point must be defined at the beginning of the semester and must be made available to students on the UC page.
4. The final grade is individual and will be assigned until the end of the appeal period.

### **Article 13**

#### SCOPE project evaluation

1. The evaluation of SCOPE projects includes two CUs: the PIC2 UC, with 12 ECTS; and the Dissertation CU, with 30 ECTS.
2. The evaluation of the PIC2 CU in the SCOPE modality (12 ECTS) will be done by presenting and public discussion of the project proposal, in pitch style accompanied by the respective presentation, a video that summarises the concept to be addressed and its contribution to the Objectives of Sustainable Development (SDG) in which it fits, a website that serves as a living repository of the project, and a report produced in a group, which contains the description of the team, the respective responsibilities, the sponsor (if any) and the plan of works for the Dissertation CU in the SCOPE modality. The degree of dissemination of the evaluation elements will be conditioned by any confidentiality agreements established within the scope of the proposed projects. The evaluation must be carried out by a jury of professors (at least two professors, including one of the advisors).
3. Although the work carried out in the scope of the dissertation in the CAPSTONE model is carried out in groups, the evaluation of the Dissertation CU in the SCOPE modality (30 ECTS) must be individual, fulfilling all the requirements of the Regulation of Master's Dissertations of Instituto Superior Técnico da Universidade de Lisboa.
4. The final grade of PIC2 CU and Dissertation in SCOPE modality is individual.