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## 2IN2100 – Communicate on sustainable research projects

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**Department:** DÉPARTEMENT GÉNIE INDUSTRIEL ET OPÉRATIONS  
**Language of instruction:** FRANCAIS  
**Campus:** CAMPUS DE PARIS - SACLAY  
**Workload (HEE):** 45  
**On-site hours (HPE):** 27,00  
**Elective Category :** Fundamental Sciences  
**Advanced level :** No

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### Description

At the heart of the environmental crisis we are experiencing, transmitting and disseminating scientific and technical knowledge is a major expertise for engineers and researchers. This course is a life-size initiation to scientific mediation: in the space of one week, the objective is to appropriate, popularize, and format, via different media, a scientific and research discourse. By working on a real research project carried out by a researcher, the aim is to enhance its value by designing a tailor-made scientific mediation tool.

This course, which follows the Vive la Recherche! 2021 event, aims to introduce students to scientific mediation through an active pedagogy involving sustainable research projects, researchers, experts in the field and an audience in a real environment. It will be punctuated by lectures by accomplished popularizers.

Scientific mediation is a discipline that consists in establishing a link between the scientific world and society. It is as much about popularization and dissemination of scientific culture as it is about ethical or political dialogues. This discipline is therefore aimed as much at the general public who wish to satisfy their curiosity or make decisions as citizens, as at policy makers who must understand the scientific world and appropriate its knowledge. Engineers trained at CentraleSupélec, through the variety of their scientific skills and their familiarity with technical, economic and societal issues, are in a favorable position to participate in this mediation.

In this course, the topics addressed by the speakers and students will all be related to the Sustainable Development Goals, which represent a particularly important issue for scientific mediation in our time, and to which it is essential to raise the awareness of the general public and the political class.

### Quarter number

semaine bloquée de SG6



### **Prerequisites (in terms of CS courses)**

A strong motivation! This week requires a significant commitment to produce a mediation medium that is equal to the quality of the speakers and experts solicited.

### **Syllabus**

Detailed course outline :

- o Introduction to the course, its objectives and organization
- o Presentation of the Sustainable Development Goals (SDGs) set out by the UN in its Agenda 2030, contextualization, need for mediation and the main tools of scientific popularization
- o Lectures and discussions led by two great witnesses, mediators or accomplished popularizers: discover the environment of scientific mediation, its habits and methods, learn the basics of mediation and the advice of experts, discover the behind-the-scenes of major projects
- o Scientific popularization project on a target medium: students meet with CentraleSupélec researchers and take ownership of their research project, then choose a type of media to present this work to a non-specialist audience or to the general public. In addition to the researchers, the students are accompanied by the course supervisors and by experts in popularization or mediation, specialists in the media they have chosen.

### **Organization of the course**

The elective is coordinated by a team of supervisors in order to ensure coherence from the introductory course to the project defense.

- Monday :

o Morning: Introduction and presentation of the week's issues, mediation tools

o Afternoon: Project exchange, meeting between researchers and students, led by the supervisors of the elective. Choice of topics and media

- Tuesday:

o Morning: Conference and discussion with a major witness

o Afternoon: Beginning of the work in project mode, with coaching by the supervisors and intervention of a media expert

o CHALLENGE: My Project in 180 seconds

- Wednesday :

o Morning: Conference and discussion with a major witness

o Afternoon: Project mode work coached by the supervisors and intervention of an expert

- Thursday :

Morning: Work in project mode coached by the supervisors and intervention of an expert.

- Friday :



- Morning: Finalization of the project
- Afternoon: Project presentation and defense

### **Class components (lecture, labs, etc.)**

- Conference and discussion with a major witness
- Work in project mode, with coaching by the supervisors and the intervention of a media expert
- CHALLENGE: My Project in 180 seconds

### **Grading**

Evaluation on the quality of the project, as well as the quality of the end-of-week presentation. Evaluation by peers and by the supervisory team.

### **Resources**

Slides of the supervisors and experts

### **Learning outcomes covered on the course**

- Create a simple outreach material for a specific audience
- Carry out a popularization project, from the research of ideas to the presentation of the material
- Know the stakes of scientific communication, in the context of sustainable development
- Evaluate the quality of a popularized information, and know how to correct or improve it if necessary
- Describe the different environments favourable to scientific communication, their advantages and their habits
- Use research to transmit their knowledge to a non-initiated public

### **Description of the skills acquired at the end of the course**

- C1.1 Study a problem and the situation as a whole. Identify, formulate and analyze a problem in its scientific, economic and human dimensions
- C3.5 Propose new solutions/tools either in rupture or in continuous progress
- C6.7 Exploit the possible connections between objects and people
- C7.1 Convince on the substance. Be clear about the objectives and expected results. Be rigorous about the hypotheses and the approach. Structure his/her ideas and arguments. Highlight the value created
- C7.4 Master spoken, written and body language. Master basic communication techniques
- C9.2 Perceive the field of responsibility of the structures to which one contributes, by integrating the environmental, social and ethical dimensions
- C9.4 Demonstrate rigor and critical thinking in the approach of problems from all angles, scientific, human and economic