Supervised Personal Initiative Work

1. **Course number and name:** 020TIPCI4 Supervised Personal Initiative Work

2. **Credits and contact hours:** 2 ECTS credits, 1x1:15 contact hours

3. **Name(s) of instructor(s) or course coordinator(s):** Alain Ajami

4. **Instructional materials:** course handouts; slides, projects

5. **Specific course information**
   a. **Catalog description:**
      In this course students undertake a personal project focused on the scientific and technological research process. Emphasis is placed on the necessity of asking preliminary questions, mirroring the common practice of scientists. The research process leads to the creation of conceptual and real-world objects, promoting knowledge construction.
      The student's work revolves around concrete research, analyzing reality to identify an issue related to the theme. Explanations are obtained through investigation using traditional tools and methods of scientific research. The objective is to encourage students to make discoveries on their own, leveraging their inventive and initiative-taking abilities, without undue ambition.

   b. **Prerequisites:** None

   c. **Required/Selected Elective/Open Elective:** Required

6. **Educational objectives for the course**
   a. **Specific outcomes of instruction:**
      – Develop critical thinking skills through the formulation of preliminary questions in scientific and technological research.
      – Apply research methodologies to analyze real-world phenomena and identify relevant issues related to the chosen theme.
      – Utilize classical tools and methods of scientific investigation to obtain explanations and insights into the identified problems.
      – Cultivate creativity and initiative by independently exploring and making discoveries within the chosen research domain.

   b. **PI addressed by the course:**

PI	1.1	2.1	2.2	2.3	2.4	2.5	3.1	3.2	4.2	5.1	5.2	7.1
Covered	x	x	x	x	x	x	x	x	x	x	x	x
Assessed	x	x	x	x			x	x	x	x	x	

7. **Brief list of topics to be covered**

   Students have the opportunity to choose projects based on their field of specialization from areas such as mechanical engineering, computer science, electrical engineering, or chemistry. These projects are conducted in groups, and upon completion, students are required to submit a report and present their work. Professors oversee and manage the projects by providing regular guidance and necessary support (12 lectures)