Geographic Information Systems (GIS)

1. **Course number and name:** 020GISGS3 Geographic Information Systems (GIS)

2. **Credits and contact hours:** 2 ECTS credits, 1x1.25 hours

3. **Name(s) of instructor(s) or course coordinator(s):** Mounia BEDRAN SABA

4. **Instructional Materials:**
   - Custom textbox and exercises
   - Instructor's Class Notes

5. **Specific course information**
   a. **Catalog description:** Students discover the world of GIS and its usages in general and more specifically in the civil engineering industry. The course introduces GIS concepts: it teaches how to organize, create and edit geographic data in vector and raster formats; it presents the principles of spatial analysis, tabular and spatial queries, explains the tools to create maps and how to tell stories using maps.

   b. **Prerequisites or co-requisites:** None

   c. **Required:** Required major course for Water and Environment specialty students.

6. **Educational objectives for the course**
   a. **Specific outcomes of instruction:**
      - Introduces the GIS concepts and tools used to visualize real-world features, discover patterns, obtain information, and communicate that information to others.
      - Discover the usages of GIS in general, and in the civil-water engineering industry in particular.
      - Working experience with the ArcGIS for Desktop software.

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

PI	1.3
Covered	yes
Assessed	

7. Brief list of topics to be covered:

Lectures	Topics Covered
1,2	What is GIS? What you can do with GIS
3,4	Representing the real-world Exploring ArcMap
5,6	Exploring ArcCatalog GIS Analysis
7,8	TP1 Attribute Tables Creating Maps
9,10	Editing in ArcMap Building Geodatabases
11,12	Building Geodatabases
13,14	Geometric Networks TP2