Course Syllabus

Course Code	Course Title	ECTS Credits
COMP-248	Project in Data Science	6
Prerequisites	**Department**	**Semester**
COMP-211 COMP-240 MATH-225	Computer Science	Spring
Type of Course	**Field**	**Language of Instruction**
Required	Data Science	English
Level of Course	**Lecturer(s)**	**Year of Study**
1st Cycle	Dr. D.Trihinas	2nd
Mode of Delivery	**Work Placement**	**Corequisites**
Face-to-face	N/A	COMP-244

Course Objectives:

The 2nd year course entitled "Project in Data Science" aims at extending the students' knowledge and skills obtained in their studies (so far) in an application domain of their choice. This includes, but is not limited to, Business, Medicine and Biology, Engineering, and Education.

The main objectives of the course are to:

- Complete a data-oriented project in a specific domain, by following the stages of the Data Science process. Data Science is an iterative process and includes understanding the project objectives, breaking down the project into tasks, collecting data, performing data pre-processing, undergoing data analysis, result validation and insight communication to relevant target audiences.

Learning Outcomes:

After completion of the course students are expected to be able to:

- Formulate a proposal outlining a project's objectives, data sources and tasks to attack from the various stages of the Data Science process.

- Combine programming and math skills with domain knowledge in the context of a project to see the successful completion of the project.
- Acquire domain expertise in a specific domain.
- Understand the structure and challenges of data science projects.
- Apply data analysis tools in a real-world data analysis project.
- Document the project work and its outcomes and present the results both in written form and orally.

Course Content:

Design and implement a solution to validate a hypothesis and tackle a real-world problem using Data Science tools.

Content depending on selected topic.

Learning Activities and Teaching Methods:

Project Handbook, Meetings, Milestone Reports, Project Design and Development.

Assessment Methods:

Project Diary, Milestones, Implementation, Report.

Required Textbooks / Readings:

Topic-specific research papers and texts, along with research/development project management and software engineering texts.

Recommended Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Data Science Projects with Python: A case study approach	Stephen Klosterman	Packt Publishing	2021	978-1-80056-448-0

to gaining valuable insights from real data with machine learning, 2nd Edition				
Doing Data Science	Cathy O'Neil and Rachel Schutt	O'Reilly Media	2014	978-1-449-35865-5