



Course Syllabus

Course Code	Course Title	ECTS Credits
COMP-449	Practice and Experience in Data Science	6
Prerequisites	Department	Semester
All courses /senior standing	Computer Science	Fall, Spring
Type of Course	Field	Language of Instruction
Elective	Data Science	English
Level of Course	Lecturer(s)	Year of Study
1 st Cycle	Dr. Ioannis Katakis	4 th
Mode of Delivery	Work Placement	Corequisites
Face-to-face	N/A	None

Course Objectives:

The main objective of the course is the practical experience and the provided opportunity to students to apply and integrate knowledge acquired through coursework. The practicum experience assists students in discovering, developing and refining necessary competencies and skills for their career objectives. Students will explore their acquired knowledge by applying theoretical foundations and practical methodologies to real-world problems in industrial and research institutions. Furthermore, students will:

- contribute to solve real-world problems in industrial and/or other organizations where the practical experience will be hosted;
- understand workplace organization and chain of command and how to work within an institutional structure and team-oriented culture;
- demonstrate knowledge and skills acquired by the Data Science curriculum/program and apply them to a real-world problem(s), providing partial or complete solution(s).

Learning Outcomes:

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

1. critically assess the current industrial level in the respective field of concentration.
2. understand the role and importance of practical implementation of a specific field/topic in Data Science and the practical assessment.

3. apply research and assessment to evaluate devices/software, and assess the effectiveness and meeting user needs.
4. be able to decide on the appropriate data science solution to a given real-world problem and then design the solution, implement it and evaluate it against a number of alternatives.
5. understand and be able to report on end user requirements.
6. provide Reports that communicate in a non-technical language the output of the data mining process to the end user.
7. understand the concept of industrial culture and teamwork motivation and its relationship to work.
8. perform effectively in a professional/industrial and research work-environment.
9. use communication, writing skills and knowledge acquired by the Data Science curriculum in the workplace.
10. realize and understand workplace organization and chain of command and how to work within institutional structure and team-oriented culture.
11. demonstrate knowledge and skills learned in the Data Science curriculum/program and apply them to a real-world problem.
12. understand roles and activities of the supervisor and other colleagues/employees and design and carry out a project.

Course Content:

The course contents vary according to each project's nature. Topics will be related to Data Science and relevant fields targeting tangible best practices. Students will be able to explore, demonstrate and provide solution(s) within the context of the project.

Learning Activities and Teaching Methods:

Independent Research or applied development. Meetings with supervisor.

Assessment Methods:

Submission of the final report to the supervisor.

Required Textbooks / Readings:

Depends on topic*

Recommended Textbooks / Readings:

Depends on topic*

**Note: Published articles as well as Industrial manuals and white papers in the field will also be considered as a part of the required reading material.*