



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
COMP-592DL	Project in Data Science	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
COMP-542DL COMP-540DL	Computer Science	Fall/Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	Data Science	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
2 <sup>nd</sup> Cycle	Dr Ioannis Partalas	1 <sup>st</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Distance Learning	N/A	COMP-500DL

### Course Objectives:

The main objectives of the course are to:

- allow students to demonstrate their capabilities to plan, implement and/or evaluate a graduate project culminating in a written report or manuscript and presentation. The project will give the student the opportunity and the capabilities to build a full pipeline for a Data Science task.
- enhance the students' ability to either apply their knowledge to real-life situations or to further their knowledge through in-depth research on a topic of interest.

### Learning Outcomes:

After completion of the graduate project, the students are expected to be able to:

- Apply the concepts, principles, and skills learned on Data Science related courses.
- Evaluate the project outcomes and experience
- Present the results of the project in both written and oral form.

**Course Content:**

The student, under the supervision of an academic advisor, and if applicable, an external supervisor, will independently conduct a graduate project.

Types of projects acceptable for the graduate project include, but are not limited to: research, applied, or a combination of both.

Moreover, the students will have the opportunity to conduct research projects under the supervision of engineering working in Expedia.

The students will be provided with a large dataset from Expedia one of the major companies on on-line travelling.

**Example of a project**

For this project Expedia will provide logs of customer behavior. These include what customers searched for, how they interacted with search results (click/book), whether or not the search result was a travel package. The data in this competition is a random selection from Expedia and is not representative of the overall statistics.

The goal will be to predict which hotel group a user is going to book. Expedia has in-house algorithms to form hotel clusters, where similar hotels for a search (based on historical price, customer star ratings, geographical locations relative to city center, etc) are grouped together. These hotel clusters serve as good identifiers to which types of hotels people are going to book, while avoiding outliers such as new hotels that don't have historical data.

**Learning Activities and Teaching Methods:**

Regular sessions with the academic advisor and/or external supervisor throughout the implementation of the project.

**Assessment Methods:**

Research/Implementation, written project report, project Presentation

**Required Textbooks / Readings:**

May be assigned as appropriate to the project topic.