Module Code | CS7DS2
---|---
Module Name | Optimisation Algorithms for Data Analysis
ECTS Weighting$^1$ | 5 ECTS
Semester taught | Semester 2
Module Coordinator/s | Georgios Iosifidis

**Module Learning Outcomes**

On successful completion of this module, students will be able to:

LO1. Understand the principles of convex and non-convex optimization;
LO2. Model and analyse problems that arise in data analytics
LO3. Design algorithms for optimizing data analytic applications.

**Module Content**

The aims of this module are to give the student skills to model, analyse and solve optimisation problems that arise in data analytics and modern computing and communication systems.

**Teaching and Learning Methods**

Lectures and tutorials

**Assessment Details$^2$**

<table>
<thead>
<tr>
<th>Assessment Component</th>
<th>Brief Description</th>
<th>Learning Outcomes Addressed</th>
<th>% of total</th>
<th>Week set</th>
<th>Week due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Examination</td>
<td>2 hour written examination</td>
<td>LO1-LO3</td>
<td>70%</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Mid-term Exams</td>
<td>Mid-Term Assignment</td>
<td>LO1-LO3</td>
<td>30%</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

**Reassessment Details**

Examination (2 hours, 100%)

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$^1$ [TEP Glossary](#)

$^2$ [TEP Guidelines on Workload and Assessment](#)
# Contact Hours and Indicative Student Workload

<table>
<thead>
<tr>
<th>Contact Hours (scheduled hours per student over full module), broken down by:</th>
<th>22 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>lecture</td>
<td>22 hours</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent study (outside scheduled contact hours), broken down by:</th>
<th>72 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>preparation for classes and review of material (including preparation for examination, if applicable)</td>
<td>36 hours</td>
</tr>
<tr>
<td>completion of assessments (including examination, if applicable)</td>
<td>36 hours</td>
</tr>
</tbody>
</table>

**Total Hours** 94 hours

# Recommended Reading List


# Module Pre-requisites

**Prerequisite modules:** None

**Other/alternative non-module prerequisites:** It is recommended that students have familiarity with basic concepts in linear algebra, probability, and multivariate calculus.

# Module Co-requisites

# Module Website

Blackboard

# Last Update

11/07/2019 by Georgios Iosifidis