<table>
<thead>
<tr>
<th><strong>Module Code</strong></th>
<th>CS7IS5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Module Name</strong></td>
<td>Adaptive Applications</td>
</tr>
<tr>
<td><strong>ECTS Weighting</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>5 ECTS</td>
</tr>
<tr>
<td><strong>Semester taught</strong></td>
<td>Semester 1</td>
</tr>
<tr>
<td><strong>Module Coordinator/s</strong></td>
<td>Associate Professor Owen Conlan</td>
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**Module Learning Outcomes**

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

- **LO1** Compare and contrast different approaches to designing and delivering adaptive applications
- **LO2** Understand users of complex applications and model their behaviours, preferences and tasks
- **LO3** As part of a team, design and develop powerful adaptive applications by identifying an appropriate use case and associated evaluation criteria, surveying the state of the art in existing adaptive applications and identifying their applicability to the use case, designing the models and adaptive intelligence required to fulfil the use case, building a fully functional adaptive application based on the identified use case, evaluating the appropriateness of the implemented system, collaboratively writing a group report detailing the application produced and how the team functioned.
- **LO4** Write a research paper outlining the research carried out during the design, development and evaluation of the adaptive application.

**Module Content**

Specific topics addressed in this module include:

- User modelling, including
  - Task modelling
  - User preferences
  - User characteristics
  - User behaviour
- Domain modelling
- Content and service modelling
- Personalisation approaches
- Personalised visualisations
- Adaptive techniques
- Case studies in adaptive applications, including
  - Intelligent agents
  - Recommender systems
  - Advanced AI techniques.
- Semantic model design
- Metadata representations
- Heuristic models

**Teaching and Learning Methods**

Two one-hour lectures per week; individual research and reading; engaging meaningfully in group work activities

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<sup>1</sup> TEP Glossary
<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>Group Project</td>
<td>Initial Presentation, Technical Development, Team work, Project Demonstration, Project Report</td>
<td>LO1, LO2, LO3</td>
<td>40%</td>
<td>2</td>
<td>13</td>
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<tr>
<td>Individual Reporting of Group Project</td>
<td>Personal Diary of engagement with group work.</td>
<td>LO3</td>
<td>20%</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Individual Research Paper</td>
<td>Write a research paper outlining the research carried out during the design, development and evaluation of the adaptive application.</td>
<td>LO1, LO2, LO4</td>
<td>50%</td>
<td>2</td>
<td>13</td>
</tr>
</tbody>
</table>

**Reassessment Details**

Extended Research Paper (100%)

**Contact Hours and Indicative Student Workload**

<table>
<thead>
<tr>
<th>Contact Hours (scheduled hours per student over full module), broken down by:</th>
<th>44 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>lecture</td>
<td>22 hours</td>
</tr>
<tr>
<td>laboratory</td>
<td>11 hours</td>
</tr>
<tr>
<td>tutorial or seminar</td>
<td>11 hours</td>
</tr>
<tr>
<td>other</td>
<td>0 hours</td>
</tr>
</tbody>
</table>

Independent study (outside scheduled contact hours), broken down by:

| preparation for classes and review of material (including preparation for examination, if applicable) | 36 hours |
| completion of assessments (including examination, if applicable)                   | 36 hours |

Total Hours: 116 hours

**Recommended Reading List**

- Adaptive Hypermedia by Peter Brusilovsky
- The narrative approach to personalisation by Owen Conlan, Athanasios Staikopoulos, Cormac Hampson, Séamus Lawless, Ian O’Keeffe

**Module Pre-requisites**

None

**Module Co-requisites**

None

**Module Website**

**Last Update**

4/9/2019 by Owen Conlan

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2 TEP Guidelines on Workload and Assessment