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1 Overview

1.1 Description

This module provides the foundation to evaluate and develop educational software. It will introduce didactic principles applicable to the discipline of Computer Science. Using these principles, educational software, such as: tools for teaching programming; on-line testing software; and adaptive software; to name a few, can be evaluated and developed. Computer Science topics of interest are: programming environments, persistence of information and knowledge, knowledge representation etc.

1.2 Topics

This module will look at:

- developing software to use as a teaching tool
- evaluating existing software

The above will be applied to Computer Science topics that are to be learnt and taught.

2 Plagiarism policy

This department considers plagiarism as a serious offence. Disciplinary action will be taken against students who commit plagiarism. For a formal definition of plagiarism, the student is referred to http://www.ais.up.ac.za/plagiarism/index.htm

(From the UP Main page follow the Library quick link and then the Plagiarism link)

3 Instructors

3.1 Contact details

The lecturers responsible for the course are:

Linda Marshall
Room: IT 4-28
Email: lmarshall@cs.up.ac.za
Office number: 012 420 3624

Katherine Malan
Room: IT 4-31
Email: kmalan@cs.up.ac.za
Office number: 012 420 3618

3.2 Interaction with the Instructor

It would be best to contact the instructor via email.
4 Study Material
There is no prescribed textbook. References will be given as required.

5 Assessment
The assessment of the module comprises of three(3) assessment categories:

- Assignments, at most 3 counting 40% towards the final mark
- Class participation will count 10% towards the final mark
- Examination, will be a 3-day take home and will take place during the November examination period. It will count 50% towards the final mark and a sub minimum of 40% needs to be achieved in the examination in order to pass the module.

In order to pass the module, a student needs to have an overall mark of at least 50%.

6 Lecture schedule
Lectures will be presented on Thursdays from 16:30 to 18:30. The venue is: IT 4-66 from 30 July 2015. The preliminary lecture schedule is given in the following table.

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 July</td>
<td>1</td>
<td>Administration and Discussion</td>
</tr>
<tr>
<td>30 July</td>
<td>2</td>
<td>Educational concepts</td>
</tr>
<tr>
<td>6 August</td>
<td>3</td>
<td>Educational software</td>
</tr>
<tr>
<td>13 August</td>
<td>4</td>
<td>User experience: Motivation</td>
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<tr>
<td>20 August</td>
<td>5</td>
<td>User experience: Interaction</td>
</tr>
<tr>
<td>27 August</td>
<td>6</td>
<td>Gamification</td>
</tr>
<tr>
<td>3 September</td>
<td>7</td>
<td>Educational software development: Lifecycles</td>
</tr>
<tr>
<td>10 September</td>
<td>8</td>
<td>Educational software development: Instructional design</td>
</tr>
<tr>
<td>17 September</td>
<td>9</td>
<td>Social media and e/m/u-learning</td>
</tr>
<tr>
<td>1 October</td>
<td>10</td>
<td>Assessment</td>
</tr>
<tr>
<td>3 to 11 October</td>
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<td>Recess</td>
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<tr>
<td>15 October</td>
<td>11</td>
<td>Evaluation of educational software</td>
</tr>
<tr>
<td>22 October</td>
<td>12</td>
<td>LMS’s (including distance learning and automated assessment)</td>
</tr>
<tr>
<td>29 October</td>
<td>13</td>
<td>Teaching programming</td>
</tr>
<tr>
<td>5 November</td>
<td>14</td>
<td>Machine learning to enhance human learning</td>
</tr>
</tbody>
</table>

The lectures will take the form of discussion sessions, so make sure you are prepared for the lecture.