Module Code: STU33001

Module Name: ST3001 SOFTWARE APPLICATIONS III

ECTS Weighting: 10 ECTS

Semester taught: Semester 1 & 2

Module Coordinator: Lecturer - Assistant Professor Aideen Keaney

Module Learning Outcomes:

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

LO1. Write database queries using SQL
LO2. Create online databases with PHP and MySQL.
LO3. Pre-process data, carry out exploratory data analysis (EDA) and develop data visualisations using Python
LO4. Build dashboards using a number of data visualisation tools.
LO5. Work independently and also as part of a team to develop software solutions.
LO6. Work with written and oral descriptions of software application problems and apply suitable tools to build solutions.
LO7. Source relevant reference material to help in solving software issues.
LO8. Participate effectively in group discussions on technical issues and problems.
LO9. Produce, test and implement suitable software solutions.

Module Content:

This module will give students experience in client server database technologies. The module will introduce students to writing database queries using SQL. HTML and PHP will be used to develop user front ends to these databases. The module will introduce students to the data handling and analysis functionality of Python. The module will also introduce students to data visualisation.

Teaching and Learning Methods:

This module is a computer laboratory based module. Students are given notes that encourage self paced learning. Interaction with the module instructor and peers is encouraged.

Assessment Details:

<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>Assignment 1 – Semester 1</td>
<td>In class SQL Test</td>
<td>L01, L06, L07</td>
<td>25%</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Assignment 2 – Semester 1</td>
<td>Individual PHP MySQL Database Project</td>
<td>L01, L02, L06, L07, L09</td>
<td>25%</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Assignment 3 – Semester 2</td>
<td>Group PHP MySQL Database Project</td>
<td>L01, L02, L05, L06, L07, L08, L09</td>
<td>25%</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

1 TEP Glossary
2 TEP Guidelines on Workload and Assessment
### Assignment 4 – Semester 2

| Group Python Project | L03, L04, L05, L06, L07, L08, L09 | 25% | 6 | 22 |

This module is entirely examined by continuous assessment. Students must attend a minimum of 75% of classes and are expected to obtain a passing grade of 40% in the coursework.

### Reassessment Details

- **Supplementary coursework (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>54 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>lecture</td>
<td>0 hours</td>
</tr>
<tr>
<td>laboratory</td>
<td>44 hours</td>
</tr>
<tr>
<td>tutorial or seminar</td>
<td>0 hours</td>
</tr>
<tr>
<td>Other (additional labs)</td>
<td>10 hours</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent study (outside scheduled contact hours), broken down by:</th>
<th>170 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>preparation for classes and review of material</td>
<td>20 hours</td>
</tr>
<tr>
<td>completion of assessments</td>
<td>150 hours</td>
</tr>
</tbody>
</table>

**Total Hours**: 224 hours

### Recommended Reading List

2. **Learning PHP, MySQL and JavaScript (2009)**, Nixon, R., O’Reilly Media Inc. OK
3. **PHP and MySQL 24 Hour Trainer (2011)**, Tarr, A., Wrox. OK

All these texts are available on the Safari Tech Books Online database. These can be accessed from the local TCD library page at [www.tcd.ie/Library/collections/databases.php](http://www.tcd.ie/Library/collections/databases.php)

### Module Pre-requisites

**Prerequisite modules:** ST1001 – Software Applications I & ST2001 – Software Applications II

**Other/alternative non-module prerequisites:** e.g. basic programming knowledge

### Module Co-requisites

n/a

### Module Website

[n/a]

### Last Update

01/07/2019 by Aideen Keaney