Module Code	STU33001
Module Name	ST3001 SOFTWARE APPLICATIONS III
ECTS Weighting[1]	10 ECTS
Semester taught	Semester 1 & 2
Module Coordinator/s	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[2]

Assessment Component	Brief Description	Learning Outcomes Addressed	% of total	Week set	Week due
Assignment 1 – Semester 1	In class SQL Test	L01, L06, L07	25%	6	6
Assignment 2 – Semester 1	Individual PHP My SQL Database Project	L01, L02, L06, L07, L09	25%	9	12
Assignment 3 – Semester 2	Group PHP My SQL Database Project	L01, L02, L05, L06, L07, L08, L09	25%	1	5

[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

Contact Hours (scheduled hours per student over full module), broken down by:	**54 hours**
lecture	0 hours
laboratory	44 hours
tutorial or seminar	0 hours
Other (additional labs)	10 hours
Independent study (outside scheduled contact hours), broken down by:	**170 hours**
preparation for classes and review of material	20 hours
completion of assessments	150 hours
Total Hours	**224 hours**

Recommended Reading List

1. PHP and MySQL Web Development, Fourth Edition (2008), Welling, L. Thomson, L., Addison-Wesley Professional. OK

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

4. Python for Data Analysis, 2nd Edition (2017), McKinney, W, O'Reilly Media, Inc.

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

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

Last Update

01/07/2019 by Aideen Keaney