Module: Scripting and Syntax 361

Module name:	Scripting and Syntax 361
Code:	SSX361
NQF level:	6
Type:	Speciality – Diploma in Information Technology (Programming)
Contact Time:	84 hours
Structured time:	10 hours
Self-directed time:	66 hours
Notional hours:	160 hours
Credits:	16
Prerequisites:	PRG262

Purpose

The main focus of this module is on providing a comprehensive foundation sufficient for students to create new and/or modify existing applications by means of creating plugins and extensions from a multitude of scripting languages, along with automating tasks, administering systems, and extraction of data. This module will give the student the necessary skills to master programming syntaxes independent of the programming language being faced with.

Outcomes

Upon successful completion of this module, the student will be able to demonstrate:

- An understanding of integrated knowledge of scripting techniques and concepts.
- The ability to develop and communicate a solid understanding of the more advanced concepts of programming within scripting languages.
- The ability to manage processes in unfamiliar and variable contexts through the use of tools and services to develop computing systems independent of the scripting language being used.
- The ability to create plugins and extensions for existing applications, and to successfully automate tasks, extract data, and administer systems as required.

Assessment

- Continuous evaluation of theoretical work through a written assignment, 3 formative tests and a summative test.
- Continuous evaluation of project work, where the student must design, manage and report on the evaluation of testing methodologies and the selection of an appropriate methodology for a given scenario, justifying the choice made with well-formed arguments and evidence.
- Final assessment through an examination.
- The assignments or projects collectively will count 30% of your class mark.
- All tests will collectively account for 70% of your class mark.
- Your class mark contributes 30% towards your final mark for the subject, while the final assessment accounts for 70% of your final mark.

Teaching and Learning

Learning materials

Prescribed books (EBSCO)

- 🕮 ***Sheiko, D. (2015)*** **JavaScript Unlocked.** ***Birmingham, UK: Packt Publishing (Community Experience Distilled).***
- 🕮 ***Bhasin, H. (2019)*** **Python Basics : A Self-Teaching Introduction.** ***Dulles, Virginia: Mercury Learning & Information.***
- 🕮 ***Mallett, A. (2015)*** **Mastering Linux Shell Scripting.** ***Birmingham: Packt Publishing (Community Experience Distilled).***
- 🕮 ***Lott, S. F. (2015) Python Essentials. Birmingham, UK: Packt Publishing (Community Experience Distilled).***

Learning activities

Learning will be facilitated by the lecturer with student centred activities that involve problem-based learning where pupils are presented with challenges that replicate the situation in the real-world environment. This will be achieved through a combination between presentation of theoretical concepts, guided exercises, group work and discussions during the module.

Notional learning hours

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		76.0		24.0
Formative feedback		4.0		
Project	1	4.0		14.0
Assignment	1			2.0
Test	4		8.0	16.0
Exam	1		2.0	10.0
		84.0	**10.0**	**66.0**

Syllabus

- Concepts;
- Conditional Statements;
- Datatypes;
- Loops;
- File IO;
- Modules;
- Packages;
- Comprehensions;
- Decorators;
- Virtual Environments;
- Strings;
- Methods;

- Objects;
- Classes;
- Attributes;
- Arrays;
- Hashes;
- Loops;
- Conditional Statements;
- Modules;
- Rails