ANL252 Python for Data Analytics

Level: 2

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JULY

Synopsis:

ANL252 Python for Data Analytics, as part of the Business Analytics programme, is designed to equip Business Analytics students with the skills and knowledge to use the Python programming language as a tool for data analytics tasks. At the end of this course, students will be competent in writing Python codes to manage and manipulate data, and performing visualisation and data analytics techniques using existing, accessible Python libraries. Since this course is designed to help students with little prior exposure to programming, it will focus on breadth rather than depth.

Topics:

- Introduction to Python
- Variable input and output
- Conditional statements and loops
- User-defined functions and libraries
- Array management using numpy
- Plotting graphs using matlibplot
- Importing, merging and subsetting datasets using pandas
- Editing values in a dataset
- Introduction to data mining library sklearn
- Applying decision trees and clustering using sklearn
- Introduction to SQL
- Basic SQL in Python for querying data from database using sqlite

Textbooks:

Shaw, Zed. A.: Learn Python 3 the Hard Way 2017 Addison-Wesley Professional
ISBN-13: 978-013469288

Learning Outcome:

- Differentiate the various aspects of Python programming.
- Discuss how Python manages packages, modules, functions, etc.
- Explain the operations on arrays and datasets.
- Design Python programmes for performing data analytics.
- Employ logic control flows in Python programmes.
- Prepare data for analysis using Python programming.
- Analyse data using appropriate tools and techniques with Python programming.

Assessment Strategies (Evening Class):

Components	**Description**	**Weightage Allocation (%)**
Overall Continuous Assessment	PRE-COURSE QUIZ 1	2
	PRE-CLASS QUIZ 1	2
	PRE-CLASS QUIZ 2	2
	PARTICIPATION 1	6
	TUTOR-MARKED ASSIGNMENT 1	18
	GROUP BASED ASSIGNMENT 1	20
Overall Examinable Components	ECA	50
Total		**100**