



## Module Synopsis

This module aims to provide students with basic programming skills, so as to apply the skillset into business areas where digitalization and automation are required. The module will introduce the fundamentals of programming and apply the fundamental programming skills to create programs to access web data with web APIs and extract data from documents for automation. Besides, inculcating logical thinking, problem-solving skills and basic programming skills, students will be exposed to real world data structures and learn to apply them in business. Python and Visual Studio Code will be the programming language and coding platform for the module.

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## Learning Outcomes

1. Handle the basics of programming:

- a) Strings & numbers data types;
- b) Conditionals & control structures;
- c) Functions & Iterations;
- d) Data Structures (tuple, lists and dictionaries)

2. Apply fundamentals of programming skills to:

- a) Write programs to read/write files as part of business automation;
- b) Write programs to send emails as part of business automation;
- c) Write programs to extract data from documents;
- d) Write programs to access and process semi-structured data (JSON) from various web APIs;
- e) Write programs to provide data and basic plots from data extraction.

3. Develop business ideas related to technology using programming knowledge and skills from the module.