MODULE SYNOPSIS

Fundamentals of Programming

This module equips students with the fundamentals of programming using a beginner friendly language such as Python. Students will learn how to solve problems through coding a computer program. Fundamentals on program structure, variables, selection, iteration constructs, lists, functions, exception handling will be covered. Students will be able to create programs to solve simple programming problems.

Visual Interface Design

This module equips students with graphic design skills, techniques and use of image processing tools like Photoshop to produce digital content in areas of web applications. Basic design principles like colour models, typography layout and design elements will also be covered. Students will be able to apply the use of design principles to create compelling online digital content.

Fundamentals of Web Development Technology

This module provides the students with the knowledge and skills to understand different evaluation strategies for a user interface prototype and design as well as develop interactive web application. Topics covered include Internet and HTTP protocol, basic web design principles, web interface and navigation, HTML, hypertext links, images, tables, frames, forms and different evaluation methods. Students will also be taught how to apply Cascading Style Sheets to maintain consistencies across web pages. It also provides an overview of other web technologies such as Web Client programming with Javascript, Web Development Methodology and Web Development Platforms In addition, students will appreciate various hardware and software platforms, and learn basic web administration.

Back-End Development

This module provides students with the techniques and skills required for server-side web development using Python flask. The module will review the basic database Create, Retrieve, Update, Delete (CRUD) operations and examine the Representational state transfer (REST) concepts. At the end of the module, students will be able to build and configure a backend server using the python flask framework, as well as a RESTful Application Programming Interface for the front-end to access backend services.

Web Programming

This module teaches techniques and skills required for client-side web programming. Students will learn to use JavaScript and JQuery for client-side programming to manipulate the DHTML object model to achieve dynamism in web pages.

Capstone Project

This module requires students to work in a team to develop a web project that integrates the frontend and backend application they built in the 2 modules in PDC2. Students would be taught some of the best practices in the software development lifecycle including project management with agile, change management and conducting testing in projects, which they will be applying in the project.