

Module Synopses

PDC 1 Certificate in Front-End Development

1. Front-End Web Development

This module provides students with the essential knowledge and skills to develop front-end interactive and responsive web applications. It will develop the capability to use different evaluation strategies for a user interface prototype. Key topics include Internet and HTTP protocol, basic web design principles, web interface and navigation, HTML and Bootstrap framework. Other skills areas include how to apply Cascading Style Sheets to maintain web page consistency, and the creation of responsive web designs using Bootstrap framework. Students will be introduced to the Agile Development Framework (e.g. Scrum, etc).

2. Web and Mobile Programming

This module provides students with the programming techniques and skills to create client-side web and mobile applications. Key skill sets include using JavaScript and JQuery for client-side programming to manipulate the HTML Document Object Model to achieve dynamism in web pages, and porting web applications to mobile applications. Students will also be introduced to the hybrid development techniques.

PDC 2 Certificate in Back-End Development

3. Web Development using Frameworks

This module will impart technical knowledge in the area of web and mobile application development. On completion of the module, students will be able to program web and mobile user interfaces, consume and persist data and deploy native-style mobile applications on the Google Play Store. React and React Native will be taught.

4. Back-End Development and Deployment

This module provides students with the techniques and skills required for server-side web development using NodeJS. It also equips students with the skills to host web applications on the cloud. The module will review the basic database CRUD operations and examine the REST concepts. At the end of the module, students will be able to build and configure a backend server using NodeJS framework, as well as a RESTful API for the front-end to access backend services on a cloud hosting platform (e.g., Amazon Web Services).

5. Capstone

This module requires students to work in a team to develop a full stack web development project that integrates the frontend and backend applications that they built in the *Web and Mobile Development using Frameworks* and *Back-End Development and Deployment* 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.

