Work-Study Post-Diploma (Specialist Diploma in Full Stack Web Development) - Module Synopsis

PDC 1 Post Diploma Certificate in Front-End Development
Front-End Web Development (60 hours)

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.).

Web and Mobile Programming (75 hours)

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 Post Diploma Certificate in Back-End Development
Web and Mobile Development using Frameworks (75 hours)

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 their hand phones. React and React Native will be taught.

Back-End Development and Deployment (75 hours)

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).

Capstone (15 hours)

The module teaches some of the best practices in the software development lifecycle including project management with Agile and change management. Students will work in a team and develop a web project that integrates the front-end and back-end applications they have built in the earlier modules.