Module Synopsis

- **Specialist Diploma in AI-Assisted Full Stack Web Development**
- **Work-Study Post-Diploma (Specialist Diploma in AI-Assisted Full Stack Web Development)**

PDC 1:	**Post-Diploma Certificate in Front-End Development**	**(135 hours)**
1.	**IT8908: Front-End Web Development**	**(60 hours)**

This module provides participants 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. Participants will be introduced to the Agile Development Framework (e.g. Scrum, etc).

2.	**IT8902: Web & 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 interactivity in web pages. Students will also learn how to port their web applications to mobile applications using Progressive Web Application development techniques to achieve native-mobile app features. Additionally, the module covers web programming debugging techniques and incorporates usage of AI tools to improve coding productivity and efficiency.

PDC 2:	**Post-Diploma Certificate in Back-End Development**	**(165 hours)**
1.	**IT8906: Web 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, participants 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.

2.	**IT8904: Back-End Development & Deployment**	**(75 hours)**

This module provides participants with the techniques and skills required for server-side web development using NodeJS. It also equips participants 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, participants 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).

3.	**IT8907: Fullstack Capstone Project**	**(15 hours)**

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The module requires participants 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 Development using Frameworks and Back-End Development and Deployment modules in PDC2. Participants 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.