***HIGHER NITEC* IN TECHNOLOGY – AI APPLICATIONS**

Course Code: HT2AI / Plan Code: HT2AI

COURSE OBJECTIVE

This course equips students with the skills and knowledge to assist AI / Machine Learning Engineer in identifying and translating business needs into AI requirements. He/She also assists in data preparation and analysis, as well as development of AI solutions to fulfil the organisation's business requirements. In addition, he/she has to carry out the tasks by following the required AI ethics.

COURSE STRUCTURE

Core/Specialisation Modules

S/N	Module Details	Module Code	Module Objectives
MSC: *AI Basics and Lifecycle*			
C1	**AI Ethics & Bias** 25 (T) 35 (P) Credits 3 Prerequisite: Nil	**AI43001FP** Equivalent Code AI4001FP	On completion of the module, students should be able to apply their knowledge and skills in AI ethics, bias, security, intellectual properties, basic data science and industry requirements on recommended AI solutions.
C2	**Programming Essentials** 20 (T) 40 (P) Credits 3 Prerequisite: Nil	**IT43002FP** Equivalent Code AI4001FP	On completion of the module, students should be able to apply fundamental programming concepts and computational thinking for basic programs.
MSC: *Programming for AI*			
C3	**Software Development Practices** 20 (T) 40 (P) Credits 3 Prerequisite: Nil	**IT43001FP** Equivalent Code AI4002FP	On completion of the module, students should be able to apply their knowledge and skills in software development methods on recommended solutions.
C4	**Mobile Application Programming** 20 (T) 40 (P) Credits 3 Prerequisite: Nil	**AI43002FP** Equivalent Code AI4002FP	On completion of the module, students should be able to configure software development environment, build user interface, integrate functions for interactivity and data processing, as well as publish application package onto mobile devices.
MSC: *Computer Vision*			
C5	**Computer Vision Essentials** 20 (T) 40 (P) Credits 3 Prerequisite: Nil	**AI43003FP** Equivalent Code AI4003FP	On completion of the module, students should be able to apply their knowledge and skills in computer vision (CV). They will be able to acquire and process digital images by applying computer vision techniques.
C6	**Computer Vision Applications** 20 (T) 40 (P) Credits 3 Prerequisite: Nil	**AI53001FP** Equivalent Code AI4003FP	On completion of the module, students should be able to apply their knowledge and skills in CV to analyse CV applications requirement, prepare CV application hardware and software, as well as to perform AI project such as drones and autonomous robot car.
MSC: *Natural Language Processing*			
C7	**Natural Language Processing Essentials** 20 (T) 40 (P) Credits 3 Prerequisite: Nil	**AI43004FP** Equivalent Code AI4004FP	On completion of the module, students should be able to apply their knowledge and skills in natural language processing (NLP). They will be able to read, decipher and make sense of the human languages using NLP model.

C8	**Service Robot Applications** 20 (T) 40 (P) Credits 3 Prerequisite: Nil	**AI53002FP** Equivalent Code AI4004FP	On completion of the module, students should be able to apply their knowledge and skills in NLP to analyse NLP applications requirement, prepare NLP application hardware and software, as well as to perform AI service robots' applications.
MSC: ***Data for AI***			
C9	**Data for AI Essentials** **2**0 (T) 40 (P) Credits 3 Prerequisite: Nil	**AI43005FP** Equivalent Code AI4005FP	On completion of the module, students should be able to apply their skills and knowledge to process and manipulate data. They should also be able to apply machine learning techniques to make predictions and evaluate the accuracy of AI models.
C10	**Artificial Intelligence of Things (AIoT) Applications** 20 (T) 40 (P) Credits 3 Prerequisite: Nil	**AI53003FP** Equivalent Code AI4005FP	On completion of the module, students should be able to apply their knowledge and skills in data to analyse data applications requirement, prepare data application hardware and software, as well as to perform AIoT applications.
C11	**AI Project Development** 20 (T) 40 (P) Credits 3 Prerequisite: All the modules C1 to C10	**AI53004FP** Equivalent Code AI4006FP	On completion of the module, students should be able to address a business problem and provide AI solution to resolve the issue, by leveraging on the knowledge and skills gained throughout the course.

Abbreviations: T - Theory, P - Practical, MSC - Modular Skills Certificate

CREDITS FOR CERTIFICATION
Total of 33 credits from successful completion of 8 Core/Specialisation modules.

VENUE
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Note:
1) The training schedule of lessons is subject to change.
2) Depending on the demand, not all the modules in the CET *Higher Nitec* in Technology courses will be offered in each intake. Where the modules are offered and there is insufficient enrolment, the classes will be cancelled and a full refund will be given to the affected students.