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通过实践掌握数据通信技能，
提高学生的教育与就业机会。

With hands-on knowledge of data communication skills
to enhance their educational and employment opportunities.



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NEW ERA INSTITUTE
 OF VOCATIONAL & CONTINUING EDUCATION
 新纪元技职与推广教育学院
L02635
 Owned by Dong Jiao Zong Higher Learning Centre Bhd (292570A)

学术伙伴 Academic Partners:



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软件工程

大数据科学与 商业应用软件科技

暨IT工程技能

Software Engineering
Data Science and Commercial Application Development (SEDSC-DB)
 with IT Engineering Skills

- ▲ 80% 实践训练
80% Practical Skills
- ▲ 20% 理论
20% Theory
- ▲ 2年课程
2 Years Learning
- ▲ 16岁以上即可报读, 无需入学资格
Entry Requirement: 16 Years Old & Above
- ▲ 教学媒介语以中文为主, 英文为辅
Medium of Instruction: Chinese & Simple English

认证与注册鉴定单位 Accredited and Registered by:



软件工程

大数据科学与商业应用软件科技

SOFTWARE ENGINEERING

Data Science and Commercial Application Development (SEBSC-DB)

2年课程

Years Course

本课程为因应资讯科技的迅猛发展及有以下意愿的学生而设：

This qualification was developed to keep pace with the fast changing information technology sector and for candidates who want :

- 在资讯与通讯科技(ICT)谋求职业发展。
Career progression within the Information and Communication Technology (ICT) industry.
- 掌握资讯业必须具备的知识和技能，成为专业的软件工程师、网站程式员、流动应用程式开发员、系统架构师、网站开发员等等。
To gain knowledge and skills needed to work in the IT industry as a professional software engineer, web programmer, mobile application developer, system architect, web developer and etc.

为期两年的软件工程技职课程为学生提供数据科学、大数据分析、电脑编程和移动应用程序开发技能知识，以提高他们的深造和就业机会。

The two-year Vocational Course in software engineering provides student with hands-on knowledge of data science, big data analysis, computer programming and mobile application development skills to enhance their educational and employment opportunities.

学生将学习 / Students will learn and be able to:

- ▲

依据用户的要求以及系统与技术规范，掌握软件及应用程式的设计、开发、测试、维护及记录文档程式代码。
Software and applications design, develop, test, maintain and document programme code according to user requirements and system and technical specifications.
- ▲

用C#、安卓移动(Android mobile)、Java及iPhone/iPad、Objective C，在Windows视窗移动开发移动程式。Mobile application development for Windows mobile using C#, Android mobile using Java, RxJava, Kotlin and iPhone/iPad using XCode, Objective C, Swift and etc.
- ▲

网络程式开发包含在三个关键方法中，即:PHP/MySQL, Java and C#.NET (ASP)。Web application development is included in three key approaches PHP/MySQL, Java and C#.NET (ASP).
- ▲

涵盖R和Hadoop的大数据技术。通过Python学习数据科学。
Big Data Technologies with R and Hadoop. Data Science with Python.
- ▲

标记语言、网络设计、脚本、客户端编程、服务器端编程及数据库集成等。
Markup languages, web design, scripting, client-side programming, server-side programming, database integration and etc.
- ▲

用MySQL、物件导向分析与设计，面向对象程序设计(Object Oriented Analysis and Design)，开发数据库技术，以及用Visual Basic.Net, Java, C++开发基于Window视窗的应用程式等技术。
Skills in database development with MySQL, NoSQL, etc. Object Oriented Analysis and Design, and Window-based application development with Visual Basic.Net, Java, C++ and etc.
- ▲

Linux技能，基本的电脑游戏开发。
Skills in Linux, basic computer games development.



课程内容 | COURSE OUTLINE

- 编程概论
Introduction to Programming
 - ICT实务技能
Practical ICT Skills
 - 操作系统(Linux)
Operating System (Linux)
 - 软件工程概论
Introduction to Software Engineering
 - 资讯科技与社会
IT and Society
 - 处理资讯系统
Managing Information Systems
 - 电脑网络
Computer Networking
 - 数码影像
Digital Imaging
 - 系统分析与设计
Systems Analysis and Design
 - 以Java编写物件导向程式
Object-oriented Programming using Java
 - 以C++进行物件导向程式设计
Object-oriented Programming using C++
- 网络安全
Cyber Security
 - 人机互动(HCI)
Human Computer Interaction (HCI)
 - 网站设计与开发(HTML 5 , Java Script & XML)
Web Design and Development (HTML 5 , Java Script & XML)
 - 电脑创新技术
Innovative Technologies in Computing
 - 与工作相关的软技能
Work-based Soft Skills
 - 网络应用程式开发(PHP)
Web Application Development (PHP)
 - 数据库管理系统(MySQL, NoSQL)
Database Management Systems (MySQL, NoSQL)
 - 移动应用程式开发 - Android (安卓)
(RxJava & Kotlin)
Mobile Application Development - Android (RxJava & Kotlin)
 - 软件开发方法论
Software Development Methodologies
 - 电子商务应用
E-Commerce Applications
- 职场英语 (1)
Workplace English communication (1)
 - 职场英语 (2)
Workplace English communication (2)
 - 数据结构与算法
Data Structures and Algorithms
 - .NET编程(Visual Basic .Net)
.NET Programming (Visual Basic .Net)
 - 以C#进行物件导向程式设计
Object-oriented Programming using C#
 - R和Hadoop的大数据技术
Big Data Technologies with R and Hadoop
 - 移动应用程式开发 - iOS (Objective-C 和Swift)
Mobile Application Development - iOS (Objective-C and Swift)
 - Python编程
Python Programming
 - 通过Python学习数据科学
Data Science with Python
 - 商业软件开发 (毕业制作)
Commercial Software Development (Major Project)

* Please note that the modules listed are indicative and may be subject to change.

OFQUAL认证 | OFQUAL RECOGNITION

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The Office of Qualifications and Examinations Regulation (OFQUAL) regulates qualifications, examinations and assessments in England. All learning materials are designed and written by expertise in the field and professional academic authors so that each interactive module is aligned against specific learning criteria specified by OFQUAL, the defining UK Government body for Academic Standards in UK Higher Education. These standards ensure those that learn with us receive a high quality education along with certification that is recognised universally by Universities and employers.

评估标准 | ASSESSMENT

100%作业及实践练习，本课程提供大数据科学与商业应用软件科技的理论20%与实践80%，聚焦于工作场所的实际应用。鼓励团队合作，让学生学会分组合作或单独工作以完成专题作业。

100% Assignment and Practical Exercises. The course offers both the theory (20%) and practice (80%) of Software Engineering with specialization in Data Science and Commercial Application Development skills, with a focus on the practical application of these skills in the workplace. Teamwork is encouraged and students learn to work in groups or individual to complete their projects.

考取资格 | QUALIFICATIONS

英国国立西苏格兰学院专业文凭和高级专业文凭
Diploma and Advanced Diploma awarded by West College Scotland, UK

第五级专业文凭(资格获得OFQUAL英国政府学历及考试评审局承认)
Level 5 Diploma (Regulated by OFQUAL - Office of Qualification & Examination Regulation)

就业前景 | CAREER PATHWAYS

精明数据工程师、精明数据软件工程师、软件工程师、软件系统分析师、互联网应用程序工程师、软件设计工程师、数据库软件工程师、软件测试师、移动应用程式工程师、电子商务软件工程师、系统构架师、主程式员、IT研发工程师、网页软件工程师、多媒体软件工程师、IT项目经理等等。

Data Scientist, Software Engineer, Systems Analyst, Web Programmer, UI Software Developer, Database Developer, Software Testing Engineer, Mobile Application Engineer, E-Commerce Software Developer, Systems Architect, Team-Lead Programmer, IT Developer, Web Application Developer, Web Designer, Multimedia Software Engineer, IT Project Manager, etc.