

人工智能深切影响我们的日常生活  
甚至带动全球的经济展。

Artificial Intelligence will change and impact various aspects of our lives and the economy.



# 软件工程 人工智能与 工业机器人科技

Software Engineering  
**Artificial Intelligence and  
Industrial Robotics (SEAIR)**

- ▲ 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



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# 人工智能与工业机器人科技

SOFTWARE ENGINEERING  
Artificial Intelligence and Industrial Robotics (SEAIR)

## 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、人工技能(AI)程序员、流动应用程序开发人员、系统架构师或机器人开发商等等。  
To gain knowledge and skills needed to work in the IT industry as a professional software engineer, Artificial intelligence (AI) programmer, mobile application developer, system architect, robotic developer and etc.
- 将实践学习成果与工业效率挂钩。这项人工智能与机器人的课程让学生有机会成为智能系统的开发设计师。人工智能(AI)与机器人是结合工厂内部和外部设置自动化的强大工具。近年来，人工智能逐渐成为机器人工业的解决方案，它高度的灵活性和超强的学习能力完美替代了以往机器人刻板的操作方式。  
To combine practical learning to Industrial Efficiency. This Artificial Intelligence and Robotics course can lead to a career such as a designer of intelligence systems. Artificial intelligence (AI) and robotics are powerful combination for automating tasks inside and outside of the factory setting. In recent years, AI has become an increasingly common presence in robotic solutions, introducing flexibility and learning capabilities in previously rigid applications.

此2年技职软件课程让学生学习及掌握人工智能(AI)的实用知识、机器人的程式设计与开发与流动应用程序开发的技巧，从而提高他们的教育程度与未来的就业机会。这项课程让学生接触及学习机器人的由来，它如何衔接关键的高端科技，例如人工智能和机器学习。课程中学生可学习机器人的各种应用及功能，它们如何深切影响我们的日常生活，甚至带动全球的经济。

The two-year Vocational Course in software engineering provides student with hands-on knowledge of artificial intelligence (AI), computer programming for robotics and mobile application development skills to enhance their educational and employment opportunities. This course will teach students what a robot is and how it relates to other key technologies such as artificial intelligence and machine learning. Then the course examines various applications of robots and how they will change and impact various aspects of our lives and the economy.

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

- 人工智能与机器人如何在全球最先进的科技领域—从医药到娱乐—甚至成为当今最创新科学的核心部分。  
Learn how artificial intelligence and robotics are playing vital roles in the world's most advanced technological industries - from medicine to entertainment - and are found at the heart of much of today's most innovative science.
- 探讨如何使用人形机器人、机械臂、轮式平台及其它高端科技的智能设备。  
Explore the use of humanoid robots, robotic arms, wheeled platforms and other hi-tech robotic equipment.
- 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
- 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).
- 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.
- 使用最新的软件以挑战智能机器的技术极限。  
Challenge technical abilities by using the latest software to control robotic machines.
- 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.
- 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.

## 课程内容 | COURSE OUTLINE

- 编程概论  
Introduction to Programming
  - 网络安全  
Cyber Security
  - 职场英语(1)  
Workplace English Communication (1)
  - ICT实务技能  
Practical ICT Skills
  - 人机互动(HCI)  
Human Computer Interaction (HCI)
  - 职场英语(2)  
Workplace English Communication (2)
  - 操作系统(Linux)  
Operating System (Linux)
  - 网站设计与开发(HTML5, JavaScript & XML)  
Web Design and Development (HTML5, JavaScript & XML)
  - 数据结构与算法  
Data Structures and Algorithms
  - 软件工程概论  
Introduction to Software Engineering
  - 电脑的创新技术  
Innovative Technologies in Computing
  - 人工智能(AI)  
Artificial Intelligence (AI)
  - 资讯科技与社会  
IT and Society
  - 与工作相关的软技能  
Work-based Soft Skills
  - 以C#进行物件导向程式设计  
Object-oriented Programming using C#
  - 管理资讯系统  
Managing Information Systems
  - 网络应用程式开发(PHP)  
Web Application Development (PHP)
  - 机器人与嵌入式系统  
Robotics And Embedded Systems
  - 电脑网络  
Computer Networking
  - 数据库管理系统(MySQL, NoSQL)  
Database Management Systems (MySQL, NoSQL)
  - 移动应用程式开发 - iOS (Objective-C和Swift)  
Mobile Application Development - iOS (Objective-C and Swift)
  - 数码影像  
Digital Imaging
  - 移动应用程式开发 - Android (安卓)  
(RxJava & Kotlin)  
Mobile Application Development - Android (RxJava & Kotlin)
  - 机器学习  
Machine Learning
  - 系统分析与设计  
Systems Analysis and Design
  - 软件开发方法论  
Software Development Methodologies
  - 机器人应用  
Robotic Applications
  - 以Java编写物件导向程式  
Object-oriented Programming using Java
  - 电子商务应用  
E-Commerce Applications
  - 人工智能(AI)与机器人系统开发(毕业制作)  
AI and Robotic Systems development (Major Project)
  - 以C++进行物件导向程式设计  
Object-oriented Programming using C++
  - Python 编程  
Python Programming
- \* Please note that the modules listed are indicative and may be subject to change.

## OFQUAL认证 | OFQUAL RECOGNITION

OFQUAL为英国政府学历及考试评审局，受英国议会监察。所有学习材料均由该领域的专业人士和专业学术作者设计和编写，以便每个互动模块都符合OFQUAL规定的特定学习标准，OFQUAL是英国高等教育学术标准的英国政府机构。这些标准确保学生获得高质量的教育以及大学的认证和雇主认可。

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% 的作业和实践练习，本课程人工智能与工业机器人科技的理论20%，实践80%，聚焦于工作场所的实际应用。鼓励团队合作，让学生学会分组工作，以完成各自的功课。

100% Assignment and Practical Exercises. The course offers both the theory (20%) and practice (80%) of Software Engineering with specialization in Artificial Intelligence and Industrial Robotic skills, with a focus on the practical application of these skills in the workplace. Teamwork is encouraged and students learn to work in groups 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

台湾文凭(由台湾各大学颁发)  
Diploma Qualification from Universities in Taiwan

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

人工智能软件工程师、机械人软件工程师、精明系统软件工程师、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、移动应用工程师、电子商务软件工程师、系统构架工程师、主程式员、IT研发工程师、网页软件开发工程师、网页设计师、多媒体软件工程师、IT项目经理等等。

AI Software Engineer, Robotics Systems Analyst, Software Engineer, 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.

