



课程设有实习
With Internship

智慧物联网与绿色科技

Smart IoT and Green Technology (SESGT)

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28个月课程 Months Course

▲ 80% 实践训练
80% Practical Skills

▲ 20% 理论
20% Theory

▲ 教学媒介语以中文为主，
英文为辅
Medium of Instruction:
Chinese & Simple English

▲ 16岁以上即可报读，
无需入学资格
Entry Requirement:
16 Years Old & Above

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这课程读什么？ | What Is This Course About?

想象你设计的系统可以感应温度、监测空气质量、自动控制灯光或水源，甚至帮助建筑节能、农场智能化运作 – 这就是本课程的重点。

本课程结合 IoT 技术与绿色理念，让你从零开始打造智慧设备，收集与分析数据，并将其应用于智能家居、环保系统与永续生活场景，以科技方式解决当代家居、环境与社会挑战。

随着越来越多年轻人关注生活品质，智能家居系统在新住宅中逐渐成为标配 – 自动灯控、远端监控、空气感测、水电节能等应用日益普及。与此同时，马来西亚政府也积极推动绿色数码经济与智能生活发展，在智慧城市、绿色建筑、智能农业等领域，市场对具备 IoT 开发能力与永续意识的人才持续增长。

Imagine creating systems that can detect temperature, monitor air quality, and automatically control lighting or water usage - even help buildings save energy or enable smart farming. That's what this course is all about.

This programme combines IoT technology with green innovation, guiding you to build smart devices from the ground up, collect and analyze data, and apply it in real-world scenarios like smart homes, sustainable systems, and eco-friendly living - using technology to solve modern household, environmental, and social challenges.

As more young people seek smarter and more efficient lifestyles, smart home systems are becoming a standard in modern housing - automated lighting, remote monitoring, air quality sensing, and energy-saving features are increasingly common. At the same time, Malaysia is actively driving its Green Digital Economy and Smart Living transformation, creating growing demand for IoT professionals with strong technical and sustainability skills across smart cities, green buildings, and agriculture sectors.

谁适合读？ | Who Is This For?

如果你喜欢动手做东西，喜欢组装设备、接线、设置感测器，而不是一整天坐着写代码，那这门课非常适合你。

本课程特别适合动手能力强、喜欢摆弄科技设备、对自动控制和系统安装有兴趣的学生。不需要你考试很厉害，也不要求复杂理论，只要肯做、肯学，就能一步步打造出属于你的智慧系统。

这门课以实作和设备操作为核心，特别适合那些不爱读死书，但对“把科技变成真实作品”充满热情的你。

If you enjoy building things with your hands - assembling devices, wiring sensors, setting up systems - and don't see yourself sitting all day writing code, then this course is made for you.

It's ideal for students with strong hands-on abilities, who are curious about tech gadgets, automation, and how systems work in real life. You don't need to be great at exams or master complex theories - if you're willing to try and learn by doing, you'll be able to build your own smart systems step by step.

This course focuses on real-world practice and working with actual devices. It's especially suitable for learners who aren't into rote memorization but are passionate about turning technology into real, working solutions.

学生将学会 | Students will learn and be able to:

- ▲ 设计与建构完整的物联网系统，包括感测器、装置连线与数据采集
Design and build complete IoT systems with sensors, device connectivity, and data acquisition.
- ▲ 使用微控制器 (如 Arduino、ESP32) 开发智能设备原型
Develop smart device prototypes using microcontrollers such as Arduino and ESP32.
- ▲ 运用无线通讯技术 (如 Wi-Fi、MQTT) 实现远端控制与数据传输
Apply wireless communication technologies (e.g., Wi-Fi, MQTT) for data transmission and remote control.
- ▲ 开发智能家居与绿色系统应用，如自动照明、能耗监测与环境控制
Create smart home and green system applications such as automated lighting, energy monitoring, and environmental control.
- ▲ 分析环境与设备数据，并透过网页或App进行可视化呈现
Analyze sensor and device data, and visualize results through web or app dashboards.
- ▲ 将绿色科技理念整合至系统设计中，强化节能与可持续思维
Incorporate green technology concepts into system design to promote energy efficiency and sustainability.
- ▲ 参与跨领域项目，培养软硬件整合与系统性解决问题的能力
Work on cross-disciplinary projects and develop integrated hardware-software problem-solving skills.

课程内容 | COURSE OUTLINE

编程专业课 | Programming Core Courses

- 编程概论
Introduction to Programming
- 物件导向程序设计
Object-oriented Programming
- Python编程
Python Programming
- 网站设计
Website Design
- 网络应用开发 (1)
Web Application Development (1)
- 网络应用开发 (2)
Web Application Development (2)
- 手机应用开发 (1)
Mobile Application Development (1)
- 手机应用开发 (2)
Mobile Application Development (2)

专业主修课 | Specialization Major Courses

- IoT 基础
IoT Fundamental
- IoT 编程
IoT Programming
- IoT 云端与分析
IoT Cloud and Analytics
- 智慧环境建置
Smart Environment Setup
- 绿色科技与智慧基础设施
Green Technology and Smart Infrastructure
- 可持续IoT系统设计
Sustainable IoT Systems Design

核心辅助课 | Supporting Core Courses

- 生成式AI工具
Generative AI Tools
- 作业系统
Operating System
- 网络基础
Networking Fundamentals
- 云端运算
Cloud Computing
- 信息安全管理
Information Security Management
- 软体工程
Software Engineering
- 电子商务与数码行销
E-Commerce & Digital Marketing
- 人机互动界面设计
Human Computer Interaction (HCI)
- 数码图像与视频编辑
Digital Image and Video Editing

职场技能课 | Workplace Skills Courses

- ICT实务技能
Practical ICT Skills
- 简报技巧
Presentation Skills
- 职场软技能
Work-based Soft Skills
- 职场英文沟通 (1)
Workplace English Communication (1)
- 职场英文沟通 (2)
Workplace English Communication (2)

实习与专案课 | Industry Experience & Capstone

- 专案 (1)
Project (1)
- 专案 (2)
Project (2)
- 职场学习
Workplace Learning

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



评估标准 | ASSESSMENT

100%作业及实践练习，本课程智慧物联网与绿色科技的理论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 Smart IoT & Green Technology 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

Diploma awarded by West College Scotland, UK

英国国立西苏格兰学院高级专业文凭

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



就业前景 | CAREER PATHWAYS

随着越来越多马来西亚年轻人买房装修，智能灯控、远端冷气、水泵控制、空气感测器等设备，正逐渐从“选配”变成新一代住宅的“基本配备”。不只是家用，许多中小企业、农业园区、办公室、学校也陆续引入智慧控制与节能系统，用科技减少人力和能源成本。

学成之后，你可以选择加入智能设备公司、自动化企业或中小企业内部团队，也可以自己接案创业，协助客户装设、设定系统，从住宅做到工厂、办公室甚至农场。

政府持续推动绿色科技 (GTMP, GITA/GITE)、智慧城市 (MSCF)、能源转型 (NETR) 等政策，市场对这一类动手能力强、懂得系统整合的人才只会越来越大。

常见就业岗位

毕业生可从事物联网工程师、解决方案开发员、软件工程师、系统操作员、技术员、智能家居安装员、项目执行员、技术支援专员、IT支援、绿色科技支援人员及智能设备安装技术员等相关职位。

As more young Malaysians purchase and renovate their homes, smart lighting, remote-controlled air-conditioning, water pump automation, and air quality sensors are quickly shifting from optional upgrades to standard features in modern living spaces. Beyond homes, many SMEs, agricultural sites, offices, and schools are also adopting smart control and energy-saving systems to reduce manpower and operational costs.

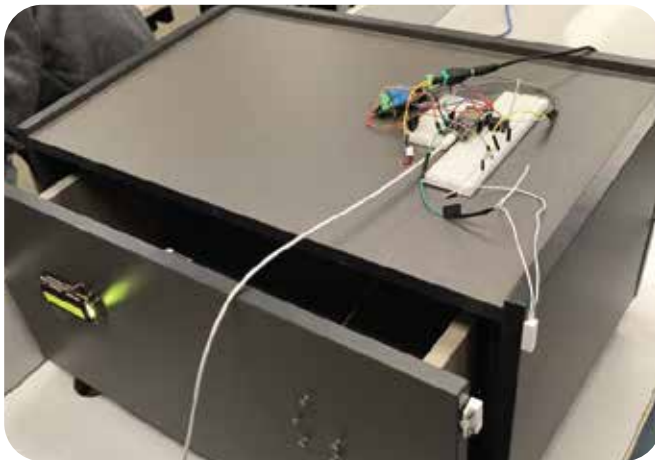
After completing this course, you'll have flexible career options: you could join a smart device company, an automation service provider, or support tech operations in SMEs. Alternatively, you could work independently - taking on freelance projects, installing and configuring smart systems for homes, offices, and even farms.

With ongoing government initiatives promoting green technology (GTMP, GITA/GITE), smart cities (MSCF), and the national energy transition (NETR), the demand for skilled, hands-on system integrators is only expected to grow.

Common Job Roles



Graduates may pursue careers as IoT Engineer, IoT Solution Developer, IoT Software Engineer, IoT System Operator, IoT Technician, Smart Home Installer, IoT Executive, Technical Support Specialist, IT Support, Green Technology Support Staff, and Smart Devices Installation Technician, etc.

让科技更聪明，让未来更绿色。
Smarter tech, greener future.



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