



课程设有实习
With Internship

机械设计与制造

Mechanical Design and Manufacture (IEMDM)

机械设计与制造

Mechanical Design and Manufacture (IEMDM)

2 年课程 Years 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

▲ 课程设有实习
With Internship

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:

- 在制造业谋求职业发展。

Career progression within the manufacturing industry.

- 掌握制造业必须具备的知识与技能，成为专业的数控机床操作技师、数控机床编程技师、机械设计工程师或产品绘图与设计师等等。

To gain knowledge and skills needed to work in the industry as a professional machinist, CNC programmer, mechanical design engineer, product designer and etc.

- 培养技能型、复合型工程技术人材。

To cultivate skilled and professional talents.

- 引导学生掌握相关技能，提高学生就业能力。

To equip participants with the range of skills to enhance their employment opportunities.

两年制机械绘图与制造专业技职课程为学生提供3D绘图技术、电脑辅助制造CAM技术、制造技术、数控原理与编程、数控机器操作的实践知识与技能，提高学生就业能力和素质。

The two-year Vocational Course in Mechanical Design and Manufacture provides student with hands-on knowledge of 3D drawing skills, computer aided manufacture, manufacturing skills, part programming, CNC machine operation to enhance their employment opportunities.

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

- ▲ 根据相应的机械工作原理、结构、零件的材料分析等，通过电脑辅助设计技术CAD进行产品设计，其中包含三维建模、曲面建模与钣金设计。

Based on the mechanical principles, to learn product mechanism and material analysis by using Computer Aided Design (CAD) software included 3D modelling, surface modelling and sheet metal design.

- ▲ 涵盖电脑辅助制造技术CAM进行三维建模与机床参数模拟。

Learn computer Aided Manufacturing (CAM) software to develop 3D modelling, machining parameters setting and simulation.

- ▲ 依据工业制造的规范，实施产品设计流程，包括原型设计，材料遴选，可供制造和装配的设计 (DFMA) 等知识，通过实际例案进行设计。

Procedures of the industrial product design, including prototyping development, material selection, Design for Manufacturing and Assembly (DFMA).

- ▲ 掌握数控机床CNC实际操作、编程技术、加工参数及各类刀具应用。

Operation of CNC machining, part programming, machining parameters and application of various cutting tools.

- ▲ 包含机械元件设计、机床、油压与气动原理，夹具设计等科目，掌握更全面的机械设计与制造的技术。

Mechanical design skills included machine element design, machine tools, hydraulic & pneumatic, jig & fixture and etc.

- ▲ 机械绘图内容包括草图、等轴测视图、正交视图、装配图和几何尺寸与几何公差规范(GD&T)等基础技术。

Mechanical drawing including sketching, isometric, orthographic, assembly and Geometric Dimensioning and Tolerance (GD&T)

- ▲ 科技引领的先进制造技术 (Advanced Machining) 原理，应用范围与需求，以至实践操作。

Various types of Advanced Machining working principles, application requirements and practical operation skills.

课程内容 | COURSE OUTLINE

- 工程安全与质量管理
Engineering Safety & Quality Management
- 代数与三角学
Algebra & Trigonometry
- 机械运动与动力学
Kinematic and Dynamic
- 电气学概论
Electrical
- ICT实务技能
Practical ICT Skills
- 工程图纸规格与技能
Technical Drawing
- 机械制图与投影
Mechanical Drawing Development
- 零件装配图
Assembly Drawing
- 电脑辅助设计
Computer Aided Design
- 3D建模与组装
3D Modeling
- 数控编程软件与加工模拟
Computer Aided Manufacture
- 金属加工与制造过程
Metal Machining and Manufacturing Process
- 数控机床加工编程
Part Programming
- 工具应用与手动式机床
Workshop Fundamental
- 机器元件设计
Machine Element Design
- 机床
Machine Tool
- 电气电工布线
Electrical Schematic and Wiring
- 先进制造与材料力学
Advanced Machining and Materials
- 液压与气动技术
Hydraulic & Pneumatic
- 工业产品设计
Industrial Product Design
- 数控车床
CNC Turning
- 数控铣床
CNC Milling
- 机械设备设计与开发(毕业制作)
Mechanical Equipment Development (Major Project)
- 实习
Internship

* 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，本课程提供机械设计与制造的理论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 Mechanical Design and Manufacture, 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



就业前景 | CAREER PATHWAYS

数控机床操作技师、数控机床编程技师、机械设计工程师、机械绘图师、产品设计师、模具设计师。

Machinist, CNC Programmer, Mechanical Design Engineer, Mechanical Draftsman, Product Designer, Mold Designer.



掌握制造业必须具备的知识与技能，成为专业的技师。

Gain knowledge and skills needed in the industry as a professional machinist.




017-372 0230 | 011-1059 9071
(DEPARTMENT OF INDUSTRIAL ENGINEERING)


03-8737 8770 | 03-8737 9292
(GENERAL LINE)

B5-B7, Block B, Jalan TKS 1, Taman Kajang Sentral, 43000 Kajang, Selangor. **enrolment@neivce.edu.my**

www.neivce.edu.my

 新纪元技职与推广教育学院

 newera_vocational_malaysia

 新纪元技职与推广教育学院