NEW PROGRAMME (N/0611/4/0156)(06/31)(MQA/PA19408)

DIPLOMA IN APPLIED ARTIFICIAL INTELLIGENCE

SUNWAY COLLEGE @VELOCITY

CHERAS CAMPUS

Turn AI Knowledge into Real-World Solutions

The Diploma in Applied Artificial Intelligence is designed to equip you with the practical skills needed to solve real-world problems using cutting-edge AI technologies. From data preparation and machine learning to Generative AI and Natural Language Processing, you will learn how to build intelligent systems that power modern applications like chatbots, predictive models, and automated workflows.

Gain hands-on experience in designing and deploying AI solutions through automation pipelines (MLOps) and cloud platforms, ensuring your skills are industry-ready and scalable. Explore advanced concepts like intelligent systems and fuzzy logic to tackle complex decision-making, while learning to evaluate models responsibly with a focus on accuracy, fairness, and ethical AI practices.

Through final year project, you will develop end-to-end AI solutions from data to deployment preparing you for high-demand roles in AI development, automation, and intelligent system design.

Continuous Assessment: 40% - 70%

Final Assessment: 30% - 60%

Intakes: January, April, August

Duration: 2 years

DIPLOMA IN APPLIED ARTIFICIAL INTELLIGENCE

Advanced entry into:

SUNWAY UNIVERSITY DEGREES

- Bachelor of Science (Honours) in Artificial Intelligence
- Bachelor of Science (Honours) in Computer Science
- Bachelor of Software Engineering (Hons)
- Bachelor of Information Systems (Honours) (Data Analytics)
- Bachelor of Science (Honours) in Information Technology
- BSc (Hons) Information Technology (Computer Networking & Security)

ENTRY REQUIREMENTS

SPM/O-Level: Pass with minimum 3 credits including Mathematics

UEC: Pass with minimum 3 Bs including Mathematics

STPM: Pass with minimum Grade C of Grade Point (GP) 2.00 in a subject

SKM: Possess SKM Level 3 in related fields and pass Sunway Bridging Course (1 semester)

Certificate: Pass Certificate (Level 3, MQF) in related fields

Students with only a Pass in Mathematics in SPM/IGCSE/ UEC will be required to complete and pass a reinforcement Mathematics subject

Information & Communications Technology | **Artificial Intelligence** | **Programming & Software Development** | **Network & Cybersecurity** | **Databases** | **Mathematics**

YEAR 1

- Programming Concepts and Problem Solving
- Data Structures and Algorithms
- Fundamentals of Information Systems
- Fundamentals of Operating Systems
- System Analysis and Design
- Database Fundamental I
- Database Fundamental II
- Mathematics for Artificial Intelligence
- Probability and Statistics for AI
- Foundations of Intelligent Systems
- Introduction to Artificial Intelligence
- Machine Learning Fundamental
- Generative AI with Large Language Models
- Programming for Data Science
- Java Programming / Introduction to Autonomous Systems and Robotics

YEAR 2

- Basic Linear Algebra
- Natural Language Processing / Introduction to Computer Vision
- Data Communication and Networking
- Network Administration and Security
- Edge and Cloud Technologies for AI
- Artificial Intelligence Applications
- Professional Issues in AI
- Computer System Architecture
- IT Project (Part I)
- IT Project (Part II)

INTERNSHIP

16 WEEKS

General Studies Subjects

For Local students

- Penghayatan Etika dan Peradaban
- Bahasa Kebangsaan A* or Creativity and Innovative Thinking Skills
- Moral Education or Islamic Studies
- Education for Sustainability Development
- Kursus Integriti dan Anti-Rasuah (KIAR) or Community Service**

For International students

- Malay Language for Communication 1
- Creativity and Innovative Thinking Skills
- Moral Education
- Education for Sustainability Development
- Integrity and Anti-Corruption or Community Service**

* Applicable to students who did not sit for SPM or did not obtain a Credit in SPM Bahasa Melayu

** Applicable to students coming from Certificate in Business Studies/Certificate in Digital Creative Content

The programme covers a range of in-demand AI disciplines, including:

- **Machine Learning** – Learn how algorithms extract patterns from data through supervised, unsupervised, and reinforcement learning for prediction and decision-making.
- **AI Automation & Workflow (MLOps)** – Design and deploy end-to-end AI pipelines, integrating models into real-world systems with automation and monitoring.
- **Cloud-Based Solutions** – Deploy scalable AI applications using industry platforms.
- **Generative AI with Large Language Models (LLMs)** – Understand and apply generative AI, including prompt engineering, fine-tuning, and real-world use cases.
- **Natural Language Processing (NLP)** – Develop systems that process and understand human language, including chatbots, sentiment analysis, and text analytics.
- **Intelligent Systems** – Explore fuzzy logic and rule-based systems to handle uncertainty and enable nuanced decision-making.
- **Data Handling & Preparation** – Learn data preprocessing, cleaning, and feature engineering techniques essential for AI systems.
- **Evaluation & Responsible AI** – Assess model performance and understand ethical considerations such as bias, fairness, and transparency.

Industry Exposure through Sunway University – HUMAC

Students enrolled in the Diploma in Applied Artificial Intelligence will have the opportunity to undertake internships at the Research Centre for Human-Machine Collaboration (HUMAC) at Sunway University.

Through this experience, students will gain hands-on exposure to real-world AI applications, including 3D mapping and AI-powered detection systems that analyse real-time data. These technologies are used in industry settings, such as assessing the ripeness and harvest readiness of palm oil fruits, enabling students to apply their knowledge to practical challenges.

CAREER PROSPECTS

- AI/Machine Learning Supervisor
- AI Developer / Python Developer
- Data Scientist (Junior)
- Data Analyst (Junior)
- MLOps/AI Automation Engineer (Junior)
- Generative AI Engineer/Specialist (Junior)
- Natural Language Processing (NLP) Engineer (Junior)
- AI Software Engineer
- AI Solutions Engineer (Cloud Based)

SUNWAY COLLEGE DK-265-01 (W)
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