



JAE CODE C87

Diploma in
Robotics &
Mechatronics

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Diploma in Robotics & Mechatronics

This is for you if you are fascinated with robotics and want to deploy them in real-world situations.

This diploma combines mechanical, electronics and computing engineering. Learn to build your own robots and gadgets as you pick up the basics of engineering and programming. You can specialise in areas such as automation and robotics or wafer fabrication.

Look forward to rewarding career opportunities in the industry or pursue further education at prestigious universities worldwide.

This diploma lets you...

- Get solid grounding in mechatronics competencies. You will be sought after in industries that embrace technological innovations in robotics and autonomous systems.
- Receive training from experienced lecturers. Maximise your learning and get opportunities to compete in international and national technological competitions.
- Gain overseas internship experiences and participate in exchange programmes with Japanese, Korean and Taiwanese companies and institutions.

Career Paths

- Application Engineer
- Automation Engineer
- Equipment Engineer
- Quality Assurance Engineer
- Research & Development Associate Engineer
- Technical Service Engineer
- Test Engineer

Course Curriculum

YEAR 1

- Algebra
- Calculus
- Effective Communication Skills
- Electrical Principles
- Engineering Drawing & Modelling
- Engineering Exploration Project
- Fundamentals of Innovation & Enterprise
- Fundamentals of Mechanics
- Introduction to Engineering
- Materials Technology
- Programming
- Thermofluids
- Workplace Digital Skills

YEAR 2

- AI Applications
- Analogue & Digital Electronics
- Automatic Control
- Device Interfacing & Programming
- Differential Equations & Series
- Mechanical Design
- Micro-Controller Applications
- Probability & Statistics
- Quality Assurance
- Robotic Systems & Peripherals
- Semestral Projects

YEAR 3

ELECTIVE PROGRAMMES (CHOOSE ONE)

1. Automation & Robotics Technology

- Automation Systems Design
- Communication & Personal Branding
- Motion Control & Drives
- Semestral Project

ELECTIVE MODULES (CHOOSE TWO)

- Communication & Networking
- Intelligent Systems
- Mechanisms Design & Simulation
- Systems & Control
- Wafer Fabrication Processes

2. Wafer Fabrication Technology

- Communication & Personal Branding
- Semestral Project
- Semiconductor Technology
- Wafer Fabrication Processes

ELECTIVE MODULES (CHOOSE TWO)

- Communication & Networking
- Electronic Materials
- Nanomaterials Science
- Systems & Control
- Vacuum Technology & Radio-Frequency Plasma

In the final year, you will have the opportunity to undertake a full-time project and a local or overseas internship programme for one semester.

GENERAL STUDIES MODULES

You will complete a total of nine General Studies modules. Explore other areas of interest beyond your chosen area of specialisation.