JAE CODE C50

Diploma in Nanotechnology & Materials Science

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This is for you if you want to develop innovative products using nanotechnology — one of the most advanced technologies today.

Nanotechnology creates products that are smaller, faster and stronger. Gain a strong foundation in producing advanced materials, such as polymers and ceramics, to create smart products for an ever-changing world.

This diploma will open doors to opportunities in high-growth sectors such as healthcare and renewable energy. Look forward to rewarding career opportunities in the industry or pursue further education at prestigious universities worldwide.

This diploma lets you...

- Design, synthesise and characterise new materials that are useful in our everyday lives.
- Research infinitesimally small materials to achieve breakthroughs of global significance.
- Gain overseas internship experiences in countries such as Japan and Australia.

Career Paths

- Laboratory Technologist
- Materials Process Engineer
- Materials Technologist
- Process or Equipment Engineer
- Quality Engineer
- R&D 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

- Communication & Personal Branding
- Differential Equations & Series
- Foundational Materials Science & Application
- Good Laboratory Practices
- Inorganic & Physical Chemistry
- Materials Analysis & Nanocharacterisation
- Mechanics of Materials
- Organic Chemistry
- Polymers & Composites
- Quality Assurance
- Thermodynamics

YEAR 3

- Advanced Crystalline Solids
- Materials Processing & Application
- Solid State Technology

ELECTIVE MODULES *(CHOOSE TWO)*

- Data Analytics for Materials
- Micro & Nanotechnology
- Nanomaterials Science
- Smart Materials
- Sustainable & Renewable Technology

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.