Admissions, Programme Duration & How to Apply

Entry Requirements

Applicants should hold at least a Second Class Lower in a relevant bachelor's degree from a recognised institution.

The programme welcomes applicants with backgrounds in:

- **Materials Science, Engineering Materials, or related engineering disciplines** such as Electrical and Electronic Engineering, Mechanical Engineering, Civil Engineering, Automotive Engineering, Industrial and Systems Engineering, and Biotechnology and Agricultural Engineering.

- **Related science disciplines** such as Physics, Mathematics, Biology/Biochemistry, and Chemistry.

Programme Duration

- **Full-time: 1.5 Years**
  Coursework and seminar-based learning with an **industry-linked capstone project**

- Designed to build advanced technical knowledge, practical skills, and applied research capability

Fuel Your Ambition
Apply Now

#AskACity
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Accra, Ghana
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admissions@acity.edu.gh

Nigeria Admissions Office – Lagos
2EB, Opp. Aswani Market, Osolo Way,
Aswani-Oshodi Industrial Scheme,
Isolo, Lagos, Nigeria
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ACADEMIC CITY UNIVERSITY



MSc Materials Science & Engineering

Drive Innovation to Design the Materials Behind Tomorrow's Technologies.



About the Programme & What Makes It Unique

About the Programme

Academic City's MSc Materials Science & Engineering programme is an intensive postgraduate degree designed to build advanced expertise in the science, processing, characterisation, and application of engineering materials.

The programme equips students to understand material behaviour, improve performance, and develop solutions for real-world challenges across manufacturing, energy, healthcare, mining, infrastructure, and sustainability through advanced coursework, practical training, and an

What Makes It Unique:

- **Interdisciplinary Materials Training:** Combine materials science, engineering, and applied science to solve real-world problems.
- **Industry-Focused Capstone Project:** Work on practical materials challenges linked to industry and innovation.
- **Advanced Characterisation & Modelling:** Gain hands-on experience in materials testing, analysis, and simulation.
- **Sustainability & Circular Economy:** Explore materials solutions for recycling, clean energy, and sustainable development.
- **High-Impact Applications:** Apply materials science across manufacturing, healthcare, mining, energy, and infrastructure.
- **Pathway to Research & Innovation:** Build the skills needed for R&D, doctoral study, and advanced technical careers.

Curriculum Overview

Semester 1

- Science and Engineering of Advanced Materials
- Advanced Thermodynamics
- Characterisation of Materials
- Mechanical Behaviour of Materials

Semester 2

- Computational Modelling and Simulation
- Materials Selection and Engineering Design
- Electrical, Magnetic and Optical Properties
- Extractive Metallurgy

Seminar Courses

- Research Design and Communication
- Managing in Adversity

Semester 3

- Introduction to Artificial Intelligence in Advanced Materials and Manufacturing
- Two Elective Courses
- Capstone Project

Elective Options

- Biomaterials and Applications
- Metals and Alloys
- Composite Materials and Durability
- Phase Transformation and Kinetics of Materials
- Renewable Energy
- Mineral Processing
- Pyrometallurgy

Key Pathways

- **Materials Engineer:** Design, test, and improve materials for industrial and engineering applications.
- **Research & Development Engineer:** Develop new materials, products, and process innovations.
- **Process Engineer:** Optimise manufacturing and materials processing systems.
- **Metallurgical Engineer:** Improve metals extraction, processing, and industrial performance.
- **Biomaterials Specialist:** Support the development of medical and healthcare materials.
- **Energy Materials Specialist:** Work on materials for batteries, solar systems, and clean energy solutions.

Top Industries

- Manufacturing & Industrial Production
- Mining & Metallurgy
- Energy & Renewable Technologies
- Construction & Infrastructure
- Healthcare & Medical Technologies
- Research Institutes & Academia
- Advanced Materials & Product Development

