Lab Facilities at Pulchowk Campus

- Electrospinning Unit
- UV–Visible Spectrophotometer
- High-Speed Centrifuge
- Low-Temperature Centrifuge
- Contact Angle Goniometer
- Freeze Dryer (Lyophilizer)
- Solar Light Simulation System
- UV Chamber
- Vortex Mixer
- Ultrasonic Sonicator:
- Hydrothermal/Autoclave Setup
- Potentiostat/Galvanostat Workstation
- Tube Furnace
- Vacuum Oven
- Hot Air Oven
- Other Routine Laboratory Accessories

Ready to shape the future with advanced materials?

Apply now for the M.Sc. in Materials Science & Engineering at IOE, Pulchowk Campus.
Limited seats—Admission through IOE entrance exam (Streams: AS/CA/EE/EC/MI/PA/GE).
Contact the program coordinator for details!

Want to discuss more?

CONTACT US NOW

Program Coordinator:
Assoc. Prof. Dr. Ganesh Kumar Shrestha
Email: ganesh.shrestha@pcampus.edu.np
Ph. No.: 9851000326, 01-5443072

Tribhuvan University, Institute of Engineering

Pulchowk Campus

Department of Applied Sciences and Chemical Engineering

Offers

Master of Science in Materials Science & Engineering (MSMSE)

In collaboration with IIT, Roorkee, India

Admission Open for 2026

Program Overview

The Master of Science in Materials Science and Engineering (MSMSE) at Pulchowk Campus, Institute of Engineering (IOE), is a two-year interdisciplinary program designed to prepare students for advanced research and industry applications in materials science. Offered under the Department of Applied Science and Chemical Engineering, the program integrates experimental and computational approaches across areas such as metals, ceramics, composites, biomaterials, electronic materials, energy technology, and nanomaterials. With a strong research focus, flexible electives, and an annual intake of 20 students, the program equips graduates for careers in academia, research laboratories, industry, and government, further strengthened by collaborative linkages with IIT Roorkee, India.

Why MSMSE?

INTERDISCIPLINARY LEARNING ENVIRONMENT

HANDS-ON LAB EXPERIENCE

CAREER IN R&D, INDUSTRY, ACADEMIA

CUTTING-EDGE, MULTIDISCIPLINARY RESEARCH

GLOBALLY COMPETITIVE DEGREE

COLLABORATION WITH IIT ROORKEE

Eligibility

Educational Qualification:

- B.E. (any discipline), B.Arch., B.Sc. Agriculture, B.Sc. (4 years), M.Sc. (for 3-year Bachelor's degree) or equivalent

Entrance Examination:

- Must pass IOE entrance exam in CA / EE / EC / MI / PA / GE / AS stream
- Computer-based MCQ exam | 2 hours | English medium
- 100 marks (Section A: 50 | Section B: 50)
- 10% negative marking for wrong answers

Minimum Marks:

- As prescribed by the Faculty Board, IOE

Fee Structure

Out of the 20 admitted students, 6 will be enrolled under the regular fee category, 6 under the full fee category, and 8 under the sponsored fee category, with sponsored fee details published at the time of admission.

Course Structure

Semester	Core Courses	Elective Courses	Project	Thesis	Total
I	16	-	-	-	16
II	8	8	-	-	16
III	-	8	4	-	12
IV	-	-	-	16	16
Total	24	16	4	16	60

Core Courses

- Mathematical Methods in Materials Science
- Quantum Mechanics
- Computational and Operational Research
- Materials Science I
- Materials Science II
- Materials Processing

Elective Courses

- Advanced Concrete Technology
- Advanced Materials for Energy Storage
- Advanced Pre-stressed Concrete
- Biomaterials and Safety
- Computational Methods for Material Science
- Continuum Mechanics
- Data Science
- Photovoltaic Materials and Technology
- Semiconductor Devices and Circuits
- Nanotechnology Equipments and Characterization Techniques

Research & Career

Materials engineers and scientists work across high-demand sectors such as energy, environment, electronics, aerospace, biomaterials, and medicine, contributing to research, development, production, and innovation. Dissertation research emphasizes creating at least one novel material through original investigation.

Jobs directly related to your degree include:

- CAD Technician
- Design Engineer
- Materials Engineer
- Metallurgist
- Product/Process Development Scientist
- Research Scientist (Physical Sciences)
- Technical Sales Engineer
- Aerospace Composite Materials
- Energy Storage & Environment
- Biotechnology & Biomedicine
- Automobiles & Electronics