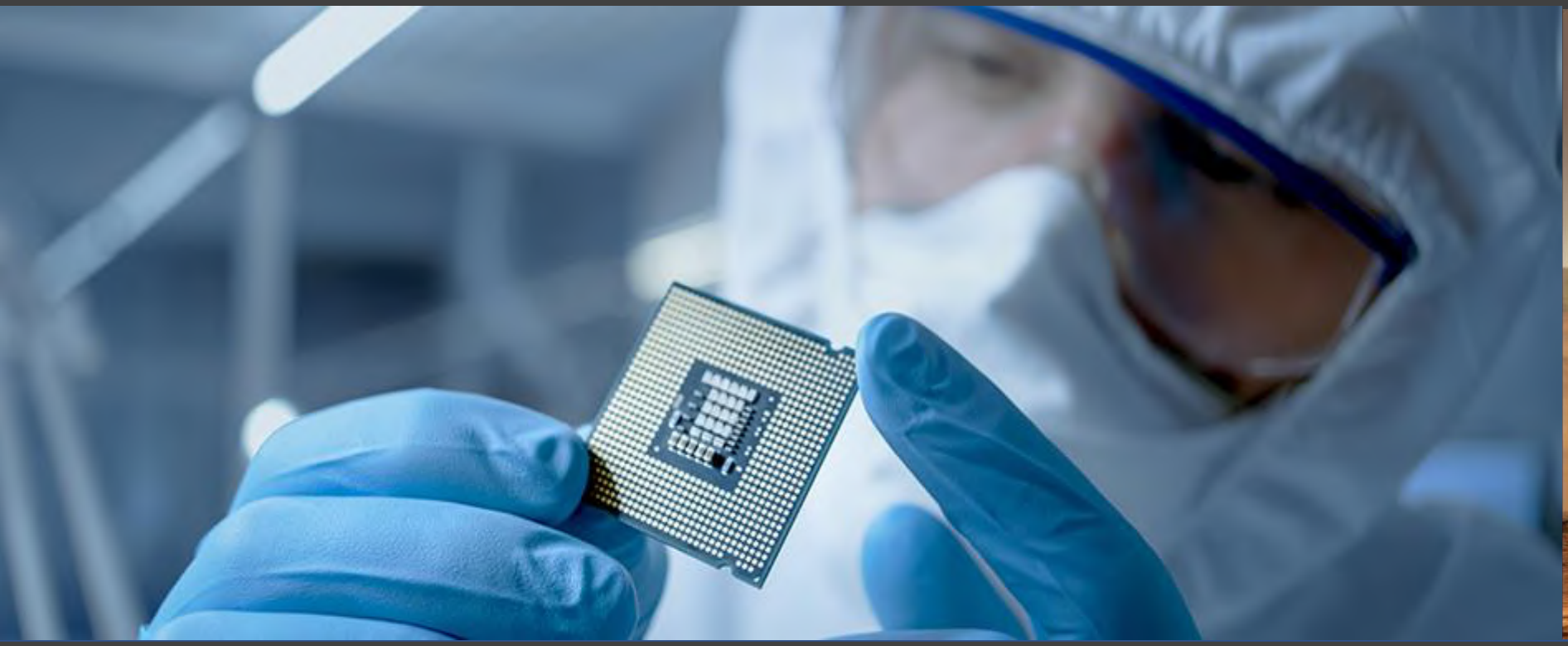
Minor In NANOTECHNOLOGY

Department of Mechanical Engineering

NATIONAL BOARD OF ACCREDITATION

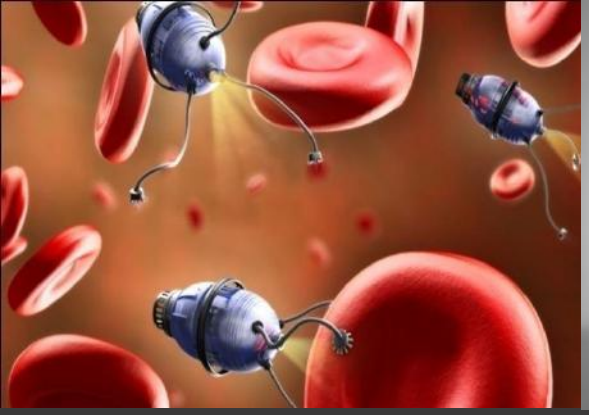


Starting	September 2020
Credits	20
Capacity	60 Students Only
Eligibility	Students of CE, ECE, EEE, CSE, CST

Nanotechnology – is the Future of the Engineering.

This program will provide you the tools to understand many nanotechnology advances, such as modern electronic systems, micromechanical systems, and nanoengineered materials, and will also allow you to understand business and environmental applications of this exciting science.

There's Plenty of Room at the Bottom – Richard Feynman



Introduction

Nanotechnology is becoming ubiquitous in our daily lives and has found its way into many commercial products, for example, strong, lightweight materials for better fuel economy; targeted drug delivery for safer and more effective cancer treatments; clean, accessible drinking water around the world; superfast computers with vast amounts of storage; self-cleaning surfaces; wearable health monitors; more efficient solar panels; safer food through packaging and monitoring; regrowth of skin, bone, and nerve cells for better medical outcomes; smart windows that lighten or darken to conserve energy; and nanotechnology-enabled concrete that dries more quickly and has sensors to detect stress or corrosion at the nanoscale in roads, bridges, and buildings.

Career Aspects

Major Industries Using Nanotechnology in their Products:

Samsung®, AMD®, a123systems, Starkey Inc., Multiple Manufacturers, IBM®, Apple® Inc. , Intel®, Eikos® Inc., IOGEAR® Inc., Lenovo, LG® Electronics, Asahi® Glass Co., Ltd....

Various Positions are offered in Electronics/ Electrical/ Computer Science/ Construction/ Communication Industries in the area of Nano scale fabrication, Micro/Nano electromechanical systems (in Engineering/Management domains).

Program Mission and Objectives

The mission of the Nanotechnology program is to provide a multidisciplinary education in nanoscale science and technology. The primary goals are to ensure that Nanotechnology students will

- Have a strong technical background, enabling them to be successful in careers that cross traditional areas of applied science and engineering.
- Be fluent in a multidisciplinary body of knowledge for participating in and seeding new technologies.
- Constitute a high-technology workforce with professional, scientific, and technical skills; they will conduct themselves ethically and knowledgeably in a wide range of professional environments.

WHO is this Minor For

This Minor is offered to all the Engineering aspirants from Depts. of Civil Engg., ECE, EEE, CSE & CST. The eligibility is based on the regulations as formulated by MITS. Zeal to learn is expected.

WHAT will you Learn

Fundamental knowledge of Nanoscience and Nanotechnology, Solid-State Engineering, Quantum Mechanics, Micro and Nanofabrication, Industrial Nanotechnology, Fabrication of Micro and Nanomaterials for Various applications. You will be expected to gain skill in this domain and come up to a level to execute a mini project, preferable solely.

Program Structure

Sl. No	Category	Course Code	Course Title	Credits
		III Year – I Semester		
1	Professional Core Course	18MDME116	Elements of Nanoscience and Nanotechnology	3
2	Professional Core Course	18MDME117	Fundamentals of Solid-State Engineering	3
		III Year – II Semester		
3	Professional Core Course	18MDME118	Quantum Mechanics for Nanotechnology	3
4	Professional Core Course	18MDME119	Micro and Nanofabrication	3
5	Professional Core Course	18MDME204	Micro and Nanofabrication Laboratory	2
		IV Year – I Semester		
6	Professional Core Course	18MDME120	Industrial Nanotechnology	3
7	Project	18MDME701	Mini Project	3
			Total	20

Contact Details

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Nano-today is only the beginning.....
The scopes are endless....