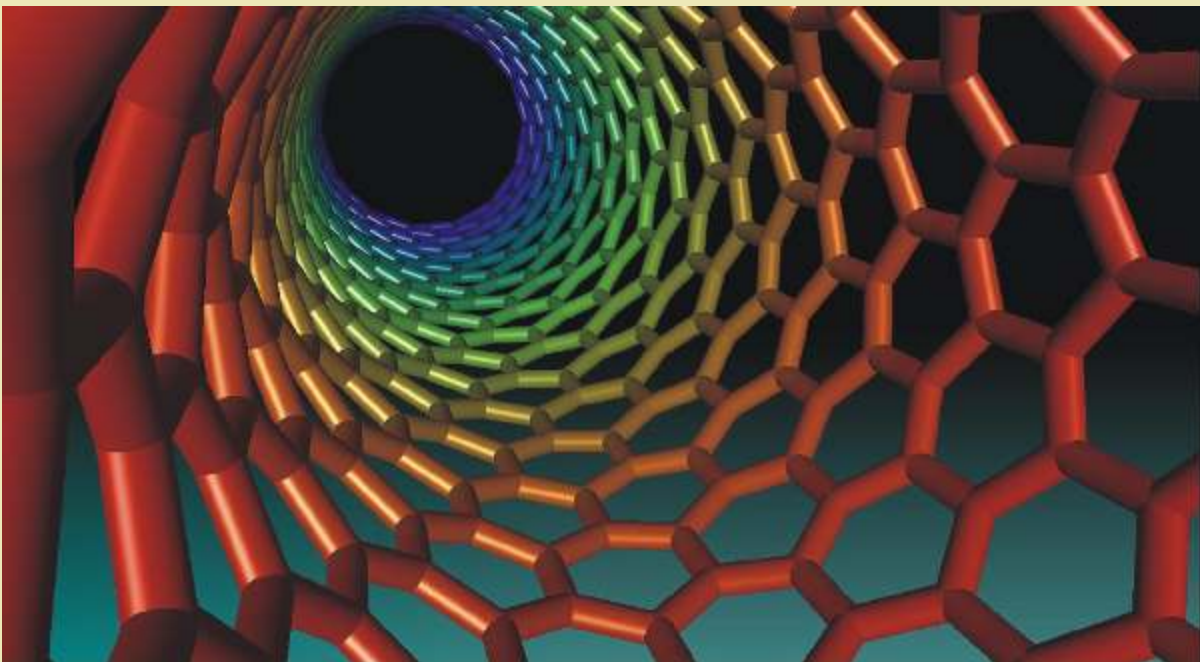


Advanced Postgraduate Program in Nanoscience & Nanotechnology (APGP-NST)

An Autonomous Full-Time Residential Postgraduate Program (24 months)

"There's plenty of room at the bottom."

- Richard P Feynman



The information age owes its origin to the shrinking dimensions of devices. Nature inherently has things operating in nano to femto dimensions. The science of small things and the technology involving the assembly of atoms and molecules to create devices, systems and machines is revolutionizing every sphere of humans and life in general. Nanoscience and Nanotechnology by its nature is interdisciplinary; and the chemists, physicists, biologists, and engineers all have roles to play in the research, development and application of Nanoscience and Nanotechnology.

This Advanced Postgraduate Program covers a broad range of biological sciences, semiconductor device fabrication to applications in medicine and other spin off applications. The focus of this program will be on the theoretical foundation and experimental techniques necessary to pursue scientific investigation in rapidly evolving areas required by young researchers to enter the world of miniaturization.

ELIGIBILITY

Graduates with a Bachelors Degree in Physics / Biology / Chemistry / Botany / Mathematics / Computer Science / Computer Applications / Agriculture / Electronics / Bioinformatics / Biotechnology / Biochemistry / Microbiology / Psychology / Home Science (with minimum of 55 percent marks or equivalent grades)

FOCUS AREAS

- ▶ Nanodevices
- ▶ Nanobiology
- ▶ Nanotools
- ▶ Computational Techniques

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COURSE STRUCTURE

	CODE	COURSE NAME	CREDITS*
BRIDGE	NST001	Review of Basic Mathematics	
	NST002	Review of Basic Physics	
	NST003	Review of Basic Chemistry	
	NST004	Review of Basic Biology	
COMMON	COM001	Life Skills Development - I	2
	COM002	Life Skills Development - II	2
FOUNDATION	NST501	Introduction to Nanoscience & Nanotechnology	3
	NST502	Biology and Biological Systems	3
	NST503	Quantum Physics	3
	NST504	Solid State Physics	3
	NST505	Quantum Chemistry	3
	NST506	Fundamentals of Electronics	3
	NST507	Computational Techniques for Nanotechnology	1
CORE	NST601	Nanomaterials	3
	NST602	Characterization of Nanomaterials	3
	NST603	Tools for Nanotechnology	3
	NST604	Nanobiology	3
	NST605	Ethical Issues and Nanotechnology	3
ADVANCED	NST701	Biomolecular Engineering	3
	NST702	Nanodevices	3
	NST703	Device Fabrication	3
	NST704	Nanotechnology in Medicine	3
	NST705	Nanotechnology Lab	2
ELECTIVES (Choose any one)	NST821	Carbon Nanotubes	3
	NST822	Frontiers of Nanotechnology	3
	NST823	Environmental Nanotechnology	3
PROJECT / THESIS	NST901	Seminar / Mini Project - I	1
	NST902	Research Methodology / Mini Project - II	2
	NST903	Project / Thesis	32

*1 Credit Hr = 16 Class Hrs / 32 Lab Hrs in a semester