I²IT -IGNOU CENTRE OF EXCELLENCE FOR ADVANCED EDUCATION AND RESEARCH

M.Tech. IN ADVANCED INFORMATION TECHNOLOGY WITH SPECIALIZATION IN SATELLITE COMMUNICATION AND SPACE SYSTEMS (MTECHCS)

2 years, full-time and residential

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FOCUS AREAS

- Satellite Engineering
- Satellite Communication
- Space Platforms
- Mini and Micro Satellites
- Spacecraft Design

"There are so many benefits to be derived from space exploration and exploitation; why not take what seems to me the only chance of escaping what is otherwise the sure destruction of all that humanity has struggled to achieve for 50,000 years?" - Isaac Asimov

For thousands of years humans have tried to explore Space and understand it in terms of Science, Astronomy and Religion. After the advent of modern Science and Technology, we have progressed into exploring the space, building complex Space Systems and utilizing and returning things back to earth from space. In the 21st Century, Space Systems and Space Technologies have been playing a central role in everyday human life. Satellite Systems have become an integral part of communication, remote sensing, weather forecasting and broadcasting technologies and processes. Mini and micro satellites have evolved as a cost effective solution for local area applications, and as an important tool for space research. Other space technologies such as Relay Platforms, Space Telescopes, Rovers and Space Stations, have become a reality today. Space Systems Technology will ultimately enable humans to explore, colonize, and break the mysteries of the universe. Space technology is no longer just reserved for Government agencies, and increasing interest in its benefits has pushed big corporations internationally to explore its viability and utility for various applications. This program has been designed to equip young Researchers and Engineers to explore different dimensions of space and its technologies, covering wide areas of Space Systems, Spacecraft Engineering with specific emphasis on Satellite Communications Systems. The modules provide ample scope for the students to explore new and innovative Space and Satellite Communication System Design for ranges of space applications.

ELIGIBILITY

Graduates / Postgraduates with a Bachelors Degree in Engineering / Technology in Automobile / Mechanical / Chemical/Production / Electrical / Electronics / Communication / Instrumentation / Mechanical / Computer Science / IT or MSc. Physics / Electronics or equivalent (with minimum 55 percent marks or equivalent grades)

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COURSE STRUCTURE

SEMESTER	CODE	COURSE NAME	CREDITS
SEMESTER I			
	MINI-001	Engineering Sciences I	6
	MINI-002	Embedded Systems Design	6
	MINI-003	Control Systems	6
	MINI-004	Communications Systems Engineering	6
	MINI-005	Digital Signal Processing	6
	MINI-054	Fundamentals of Space Communication Systems	6
	MINI-055	Seminar	4
	MIN-001	Life Skill Development I	6
		Total	**46**
SEMESTER II			
	MINI-006	Engineering Sciences II	6
	MINI-056	Spacecraft Subsystem Design	6
	MINI-057	Satellite Communication Engineering	6
	MINI-058	Advanced Electromagnetics	6
	MINI-059	Antennas for Space Communication	6
	MINI-007	Research Methodology	6
	MIN-002	Life Skill Development II	6
		Total	**42**
SEMESTER III			
	MINP-013	Project Phase I	36
SEMESTER IV			
	MINP-014	Project Phase II	48
Total Credits			**172**

Delivery of an elective will be subject to availability of domain expert / faculty as well as minimum number of students for that particular elective