Advanced Postgraduate Program in Intelligent Transportation Systems (APGP-ITS)

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

"Requirement is for vehicles that produce no pollution, powered by electricity from any plug point and viable to both the performance and commercial market adapted to new technologies, such as artificial intelligence and soft computing."

- **Ford Motor Company**

Intelligent Transportation Systems program is a worldwide initiative to add information and communications technology to transport infrastructure and vehicles. Intelligent Vehicle Technologies comprise of electronic, electromechanical, and electromagnetic devices - usually silicon, micro machined components operating in conjunction with computer controlled devices and radio transceivers to provide precision repeatability functions and emergency warning performance reconstruction. The advent of alternative energy based vehicles to address the problems of fossil fuel depletion and environmental degradation provides scope for innovative vehicle design for the future. Fully automated vehicle operations with respect to alternative energy based engines are still some years away for the markets.

This Advanced Postgraduate Program focuses on implementing the electrical, electronics, communication and computing technology onto future hybrid and electric vehicles.

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)

FOCUS AREAS

► Intelligent Systems
► Automotive Electronics
► Alternative Fuel Engines
► Machine Vision
► Intelligent Control Systems

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COURSE STRUCTURE

	CODE	COURSE NAME	CREDITS*
BRIDGE	ISR001	Software Tools for Intelligent Systems	
	ISR002	Introduction to Electronic Design	
	ISR003	Signals and Systems	
	ISR004	Introduction to Applied Mechanics	
COMMON	COM001	Life Skills Development – I	2
	COM002	Life Skills Development - II	2
FOUNDATION	ITS501	Vehicle Design and Performance	3
	ISR502	Control Theory	3
	ISR503	Sensors and Actuators	3
	SCS504	Communication Engineering	3
	ISR505	Introduction to Embedded systems	3
	ITS506	Hybrid and Electric Vehicles	3
	ITS507	Drive System Lab	2
CORE	ITS601	Automotive Electronics	3
	ITS602	Transmission System and Design	3
	SCS603	Navigation Systems	3
	ITS604	Vehicle Dynamics	3
	ITS605	Technology Management	2
ADVANCED	ITS701	Automotive Embedded Systems	3
	ITS702	Chassis Engineering	3
	ITS703	Solar Energy Powered Systems	3
	ITS704	Fuel Cell Technology	3
	ISR705	Ergonomics	2
ELECTIVE **(Choose one)**	ITS821	Bio Fuel Vehicles	3
	ITS822	CNG Based Vehicles	3
	ISR823	Software Engineering for Embedded Systems	3
	ISR824	RTOS Design and Linux	3
PROJECT / THESIS	ITS901	Seminar / Mini Project – I	1
	ITS902	Research Methodology and Mini Project – II	2
	ITS903	Project / Thesis	32

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