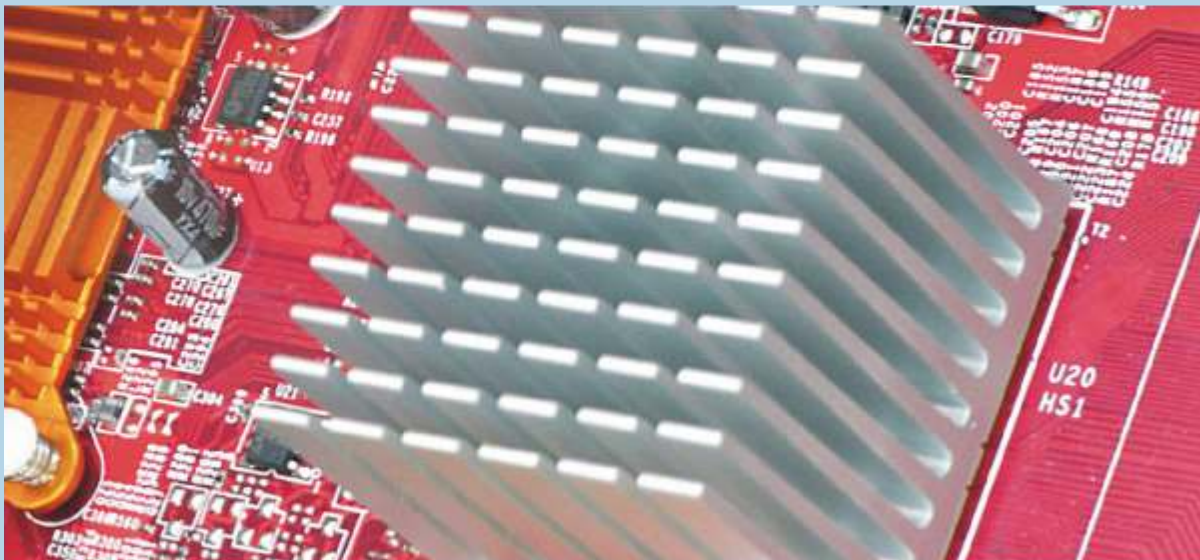


Advanced Postgraduate Program in Embedded Systems Design (APGP-ESD)

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

“Everything will be connected and I mean literally everything. Not just electronic devices, but everything down to your piano. We’ll have as many as four or five (embedded) internet devices on our bodies.”

- John Chambers



Embedded Systems Design has become the design methodology of choice in new applications in computing, communications, networking, automotive electronics, medical electronics, avionics and the like. A three-dimensional growth is taking place in this high-end technology sector, with increasingly powerful micro-controllers and digital signal processors competing with emerging tools in Field Programmable Gate Arrays (FPGAs). Embedded systems range in size from pacemakers and intelligent sensors to cell phones and PDA's to stand alone and distributed elements like set top boxes, modems, network elements and to large scale systems deployed in process control, manufacturing, power generation, defense applications, telecommunications, automotive electronics, air traffic control, video on-demand and video conferencing.

This Advanced Postgraduate Program introduces students both to the state-of-the-art and state-of-the-practice in the broad field of embedded and real-time computing control and communication and enables them to pursue rewarding careers in these frontier areas of technology.

ELIGIBILITY

Graduate with recognized Bachelors degree of Engineering in Electrical / Instrumentation and Control / Electronics and Communication / IT / Computer Science / M.Sc. in Electronics / Computer Science or equivalent with minimum 55 percent marks or equivalent grades.

FOCUS AREAS

- ▶ Robotics and Artificial Intelligence
- ▶ Image Processing
- ▶ DSP on FPGA
- ▶ Automotive Embedded Systems
- ▶ Multimedia and Display Technology
- ▶ Access Technologies – Smart Cards & RFID
- ▶ Virtual Instrumentation and Control

Advanced Postgraduate Program in in Embedded Systems Design (APGP–ESD)

COURSE STRUCTURE

	CODE	COURSE NAME	CREDITS*
BRIDGE	ESD001	Computer Architecture	
	ESD002	Signals and Systems	
	ESD003	Introduction to Programming Languages	
	MVD002	Introduction to Logic design	
	NTC002	Computer Networks	
COMMON	COM001	Life Skills Development - I	2
	COM002	Life Skills Development - II	2
FOUNDATION	ESD501	Analog and Digital Systems Design	3
	ESD502	Micro Controller Based Systems Design-I	3
	ESD503	Digital Signal Processing	3
	ESD504	Advanced C Programming	3
	ESD505	Operating Systems Design	3
	ESD506	Embedded Communication Systems	2
	ESD507	Introduction to Access Technologies	2
CORE	ESD601	Micro Controller Based Systems Design-II	3
	ESD602	Real Time OS	3
	ESD603	Embedded Design Cycle	3
	ESD604	Embedded Instrumentation and Control	3
	AST004	Object Oriented Programming C++ & Java	2
	MVD601	ASIC Modelling	2
ADVANCED	ESD804	Embedded Computing	2
	ESD703	Research Methodologies + Seminar series - II	2
	ESD704	Tech & IP Management	1
ELECTIVES (Select any one)	ESD801	Smart Cards - I Physical Design & System Software	3
	ESD802	Automotive Embedded Systems - I	3
	ESD812	Digital Image Processing	3
	ESD605	Embedded Wireless Systems	3
(Select any two)	ESD701	Advanced Micro-Controller Based System Design	3
	ESD805	Smart Cards - II Application Software	3
	ESD806	Automotive Embedded Systems - II	3
	ESD807	DSP with FPGA	3
	ESD809	Virtual Instrumentation	3
	ESD811	Embedded Digital Signal Processors	3
	ESD810	Embedded Multimedia Technology	3
PROJECT	ESD901	Project - I / Seminar Series - I	1
	ESD902	Mini - Project - II	2
	ESD903	Project	32

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