

**DEPARTMENT OF INTERDISCIPLINARY SCIENCE AND TECHNOLOGY**

**Advanced Certificate Programme in Embedded Systems Design (ACP-ESD)**  
**9-Months, Full-time**

Embedded systems control the world around us. Industry estimates more than 15 billion embedded devices operating worldwide by the year 2015. Embedded systems design has become the design methodology of choice for new applications in computing, communications, networking, automotive electronics, medical electronics, avionics, and the like. The growth in the field of embedded systems propels the ability to implement and experiment with new ideas in emerging sectors of science, engineering, and technology.

To be able to succeed in this field the aspirant needs to be well versed in various domains and should become adaptable to changes in technology. Advanced Certificate Programme in Embedded Systems Design has specifically chosen modules to provide the bridge for fresher's interested in this domain with ever expanding horizons.

**Course Structure**

**Level - I**

Course Code		Credits
NWT-002	Programming / Scripting Languages	[2T+1L]
ESD-001	Digital Signal Processing	[2T+1L]
ESD-002	Microcontroller based System Design	[2T+2L]
ESD-003	Virtual Instrumentation	[2T+2L]
SSD-001	Soft Skills Development - I	2T
ESD-004	Project - I	4
	<b>Total Credits</b>	<b>20</b>

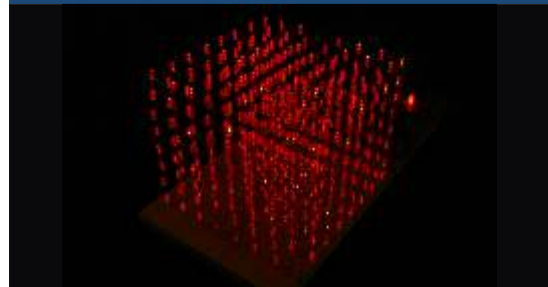
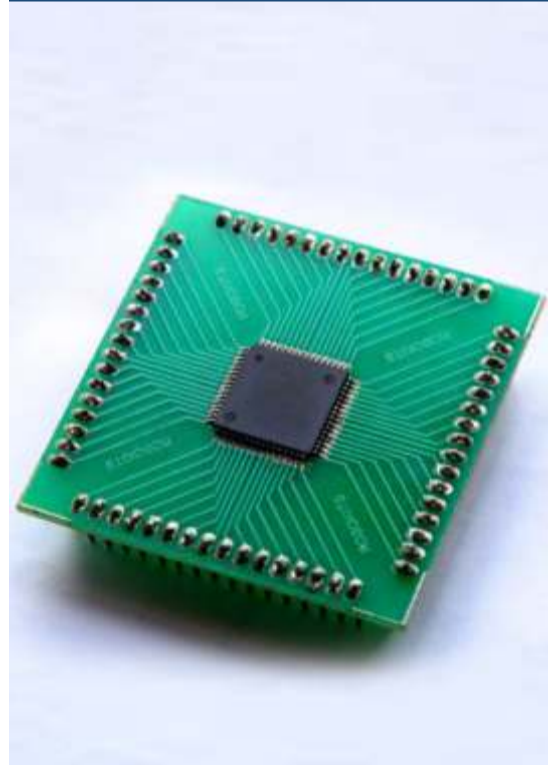
**Level - II**

Course Code		Credits
ESD-005	Advanced Embedded Systems	[2T+2L]
SCT-008	Linux Kernel Programming	[2T+1L]
ESD-006	Wavelets & Image Processing	[2T+1L]
ESD-007	Model Based Design	[2T+2L]
SSD-002	Soft Skills Development - II	2T
ESD-008	Project II	4
	<b>Total Credits</b>	<b>20</b>

**Note:** One credit of Theory (T) equals 16 hrs. of teaching contact hours and one credit of Lab (L) equals 32 hours of laboratory work.

**Lab Infrastructure**

Microcontroller development kits on individual basis.  
ARM microcontroller based kits  
Intel Atom architecture based systems  
TI DSP's (16-bit fixed and floating point), Code Composer Studio  
Matlab® SE, LabVIEW® SE



## Certification / Knowledge Partners



## Eligibility

- B.E. / B.Tech. / M.E. / M.Tech. in Electrical/Instrumentation & Control / Electronics / IT / Computer Science or equivalent
- M.Sc. in Electronics/Instrumentation/ Computers or equivalent, with 55% aggregate marks.

## Faculty

- Prof. Amit Patwardhan
- Prof. S.M.M. Naidu
- Prof. Abhishek Shukla
- Prof. Priyashraba Mishra
- Prof. Yashodhan Mandake
- Prof. Bhushan Patil
- Prof. Nitin Kandpal
- Visiting Faculty (Industry Experts)

### Contact - HoD

Prof Amit Patwardhan : +91 20 22934590/91

Email id - esd@isquareit.com



*For application & selection process, please visit [www.isquareit.com](http://www.isquareit.com)  
You can also contact Admissions Department*

### **INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY CENTRE FOR ADVANCED STUDIES**

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Website - [www.isquareit.com](http://www.isquareit.com)

Email id - [admissions@isquareit.com](mailto:admissions@isquareit.com), [info@isquareit.com](mailto:info@isquareit.com)

## DEPARTMENT OF INTERDISCIPLINARY SCIENCE AND TECHNOLOGY

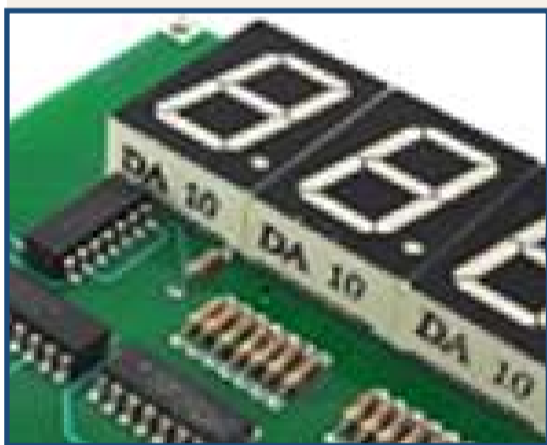
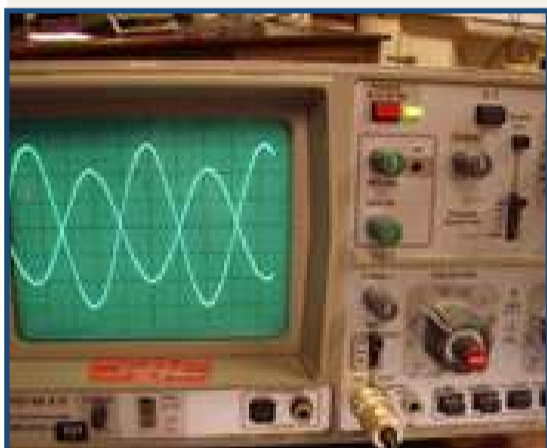
### Advanced Certificate Programme in Embedded Systems Design (ACP-ESD) 6-Months, Full-time

#### Foreword

Embedded systems control the world around us. Industry estimates more than 15 billion embedded devices operating worldwide by the year 2015. Embedded systems Design has become the design methodology of choice for new applications in computing, communications, networking, automotive electronics, medical electronics, avionics, and the like. The growth in the field of embedded systems propels the ability to implement and experiment with new ideas in emerging sectors of science, engineering, and technology.

To be able to succeed in this field the aspirant needs to be well versed in various domains and should become adaptable to changes in technology. Advance certificate program in embedded systems design has specifically chosen modules to provide the bridge for freshers interested in this domain with ever expanding horizons.

#### Course Structure



#### Level - I

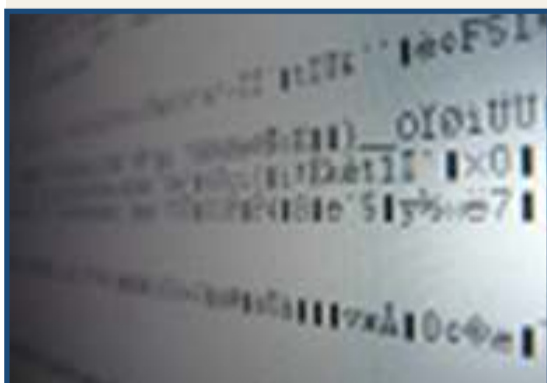
Course Code	Course Name	Credits
NWT-002	Programming / Scripting Languages	[2T+1L]
ESD-001	Digital Signal Processing	[2T+2L]
ESD-002	Embedded System Design - I	[2T+1L]
ESD-003	Virtual Instrumentation	[2T+1L]
SSD-001	Soft Skills Development - I	2T
ESD-004	Project - I	2L
	<b>Total Credits</b>	<b>17</b>

#### Level - II

Course Code	Course Name	Credits
ESD-005	Embedded System Design - II	[2T+1L]
ESD-006	Real Time Systems	[2T+1L]
ESD-007	Wavelets & Image Processing	[2T+1L]
ESD-008	Model Based Design	[2T+2L]
SSD-002	Soft Skills Development - II	2T
ESD-009	Project - II	2L
	<b>Total Credits</b>	<b>17</b>

**Note:** One credit of Theory (T) equals 1 Hr. of teaching contact hour per week | One credit of Lab (L) equals 2 Hrs. of laboratory work per week

#### Lab Infrastructure



#### Hardware and Software Tools

- AVR STK500
- AVR Emulator
- ARM7TDMI Development Boards
- ARM Cortex Development Boards
- Intel® Atom™ architecture based development systems
- TI DSP's (16-bit fixed and floating point), Code Composer Studio
- Function generators
- Digital Storage Oscilloscopes
- SMD soldering stations
- JTAG Debugging tools
- CAN Development boards
- CAN Sniffer
- Beagle Board
- GNU Tools for 8 bit and 32 bit processors
- Matlab® SE, LabVIEW® SE

## Distinctive Features

- Strategic location of the Institute in the midst of top technology giants in the Pune Infotech Park
- Over 12+ years of quality experience in delivering technology programmes in niche and emerging areas
- Well qualified and committed faculty with rich teaching, research and industry experience
- Curriculum evaluated by industry experts
- State-of-the-art Laboratory to gain hands on experience on various technological tools & platforms
- Wired broadband internet connectivity of 8 Mbps
- Digital campus learning environment
- Dedicated placement team to facilitate the students for career counseling and placement assistance
- Active interface with technology and user companies
- Excellent on-campus hostel facility available (optional)
- Cafeteria facility available (on cash and carry basis)

## Knowledge / Certification Partners



## Faculty

- Prof. Amit Patwardhan
- Prof. S.M.M. Naidu
- Industry Experts

Contact details HoD  
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[dist@isquareit.com](mailto:dist@isquareit.com)

## Recruiters (Abridged List)

Intel  
[www.intel.in](http://www.intel.in)

Zensar Technologies  
[www.zensar.com](http://www.zensar.com)

Sasken  
[www.sasken.com](http://www.sasken.com)

iGATE  
[www.igate.com](http://www.igate.com)

John Deere  
[www.deere.com](http://www.deere.com)

G & D India  
[www.gi-de.com](http://www.gi-de.com)

NXP  
[www.nxp.com](http://www.nxp.com)

Tata Technologies  
[www.tatatechnologies.com](http://www.tatatechnologies.com)

KPIT Cummins  
[www.kpitcummins.com](http://www.kpitcummins.com)

Wipro Technologies  
[www.wipro.com](http://www.wipro.com)

## Eligibility

- B.E. / B. Tech / M.E. / M. Tech in Electronics & Telecommunications / Electronics / Electrical / Instrumentation / Computer Engineering / Computer Science / Information Technology or equivalent with at least 55% marks from a recognized university
- M.Sc. in Electronics / Computer or equivalent with at least 55% marks from a recognized university

For more details about the Programmes, Admission, Application & Selection process, please visit [www.isquareit.com](http://www.isquareit.com) or call any of our student counselors between 9 AM & 6 PM on: +91 9372121253 / 9372121254



### I<sup>2</sup>IT Trust & Society's CENTRE FOR ADVANCED STUDIES

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Website - [www.isquareit.com](http://www.isquareit.com)

#### Disclaimer:

- The courses and course contents, lab hardware and software environment are subject to change without prior notice keeping in mind the new advances in technology and industry requirements.
- Advanced Certificate Programmes / Electives mentioned will be offered depending on the number of students opting for the respective courses.
- Due to any unforeseen circumstances, the Institute reserves the right to delay / postpone the commencement of the programme.
- The images and pictures used in this leaflet are for illustration purposes only, and in no way constitute or represent exact location, service or idea in this context.