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Dr. Marimuthu R., Associate Professor

Dr. D.Rama Prabha, Associate Professor

Dr. Jakeer Hussain. Assistant Professor

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## REGISTRATION

Prospective participants are requested to register for the programme through the following web link:

<https://events.vit.ac.in/>

### Participation fee:

Food and accommodation: 175 USD  
(For SAARC and African countries: 100 USD)

### Course Content:

- ❖ Embedded system architecture
- ❖ Peripherals of ARM
- ❖ Timers and PWM
- ❖ System Control
- ❖ Real Time Clock
- ❖ Watch Dog Timer
- ❖ Speed device controller with DMA
- ❖ Universal Asynchronous Receiver Transmitter
- ❖ Inter Integrated Circuit
- ❖ Serial Peripheral Interface
- ❖ External Interrupt
- ❖ Timer Interrupt
- ❖ PWM Interrupt
- ❖ ADC Interrupt
- ❖ UART interrupt

### Department Lab Facility



**VIT**  
Vellore Institute of Technology  
(Deemed to be University under section 3 of UGC Act, 1956)

## International Summer School – 2024

### Course on Embedded System Architecture and Programming with ARM Controller

**13<sup>th</sup> – 24<sup>th</sup> May 2024**

Organized by  
Department of Energy & Power Electronics,  
School of Electrical Engineering,  
Vellore Institute of Technology,  
Vellore-632014, Tamilnadu, India

## Vellore Institute of Technology (VIT)

VIT, Vellore was founded in 1984 as Vellore Engineering College by the Founder and Chancellor Dr. G. Viswanathan. University status was conferred in 2001 by MHRD Govt. of India in recognition of its excellence in academics, research and extracurricular initiatives.

VIT has emerged as one of the best institutes of India and is aspiring to become a global leader. Quality in teaching-learning, research and innovation makes VIT unique.

- Engineering and Technology subject areas of VIT are the 240th best in the World and the 9<sup>th</sup> best in India, and eight subjects of VIT are within the top 500 in the world (as per QS World University Rankings by Subject 2023).
- The 8<sup>th</sup> best University, the 11<sup>th</sup> best research institution and the 11<sup>th</sup> best engineering institution in India (NIRF Ranking, Govt. of India 2023).
- Ranked among the top 600-800 Universities of the world (THE World University Ranking 2024).
- NAAC Accreditation with A++ grade (3.66 out of 4).
- The 173<sup>rd</sup> best Institution in Asia (QS - Asia University Rankings 2023).

### About the School

The School of Electrical Engineering (SELECT) offers B.Tech. in Electrical and Electronics Engineering, Electronics and Instrumentation Engineering, Electrical and Computer Science Engineering, M.Tech. in Power Electronics and Drives, Control and Automation, Ph.D. and Integrated Ph.D. in Engineering. The programmes are accredited by the Engineering Accreditation Commission of ABET and Institution of Engineering and Technology (IET), U.K. The school played a key role in securing a QS Subject Ranking in Electrical and Electronics Engineering between 201-250 globally and ranking 8th in India.



The school has state-of-the-art laboratories in almost all the areas of Electrical, Electronics and Instrumentation Engineering. SELECT has industry sponsored advanced laboratories for performing world class research and consultancy. The school's industry partners Danfoss, Schneider Electric Smart Energy, Schneider Electric Building Automation, Fluke, Q-Max Automated Test Engineering and NXP Semiconductors, India, have established Centre of Excellence for students R&D activities under the guidance of faculty members and industry experts.

The students are encouraged to take advantage of the growing opportunities by incorporating an international internship experience in their final year undergraduate and postgraduate education. Students are also motivated to opt for twin degree programs with various reputed universities across the globe. Every year, students get scholarships to do their final year projects abroad under the Semester Abroad Program (SAP). The school's pre-incubation cell supports product development, patent filing and start-up enthusiasts.

### About the Department

The Department of Energy and Power Electronics provides a platform for the creation and application of power electronics technology in multidisciplinary fields to provide clean and sustainable energy. The courses are designed to provide well-balanced theory and hands-on training in Power Electronics, drives and controls, Electric Vehicles, Embedded control and more to meet the demand of industries.



Through specific courses the graduates are employed in Drives, Embedded, Automobile and pharmaceutical industries in addition to career as a researcher in premiere institutes in India and abroad.

### About the Program

The uses for embedded systems are nearly limitless because new products with embedded computers are introduced to the market every day. The cost of FPGA chips, microprocessors, and microcontrollers has all dropped dramatically in recent years. Therefore, it makes more sense to just buy the generic chip and program it with custom. This course's goals are to introduce and go over embedded system architecture, build processor software, debug that program, and connect peripherals with the processor.

### Learning Outcomes:

- Understand the various embedded system architecture
- Develop programs for various blocks of ARM
- Knowledge of communication protocols for different applications
- Develop parallel processing applications and knowledge about interrupts
- Analyse and solve real time embedded system problems