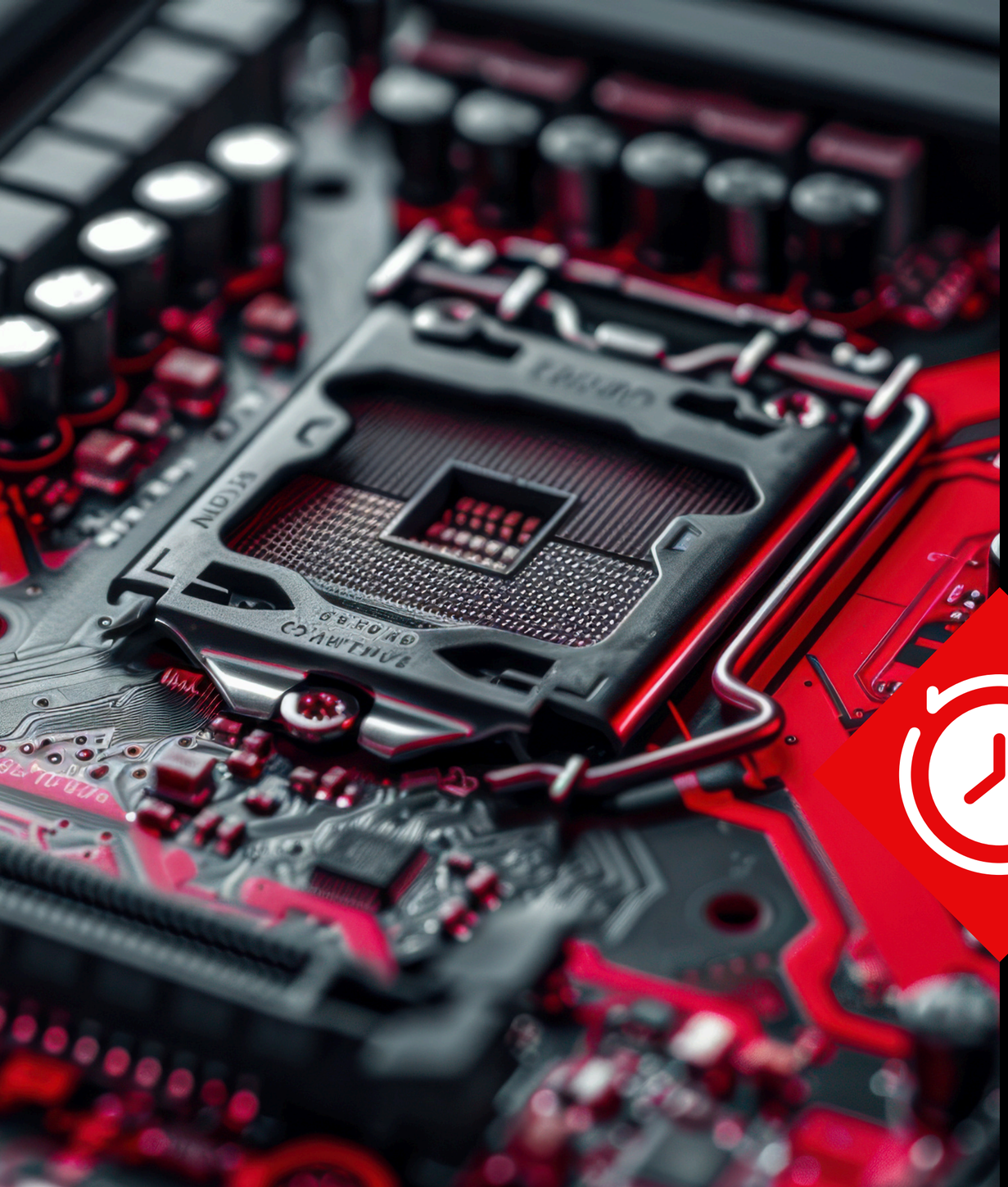


EMBEDDED SYSTEMS DIPLOMA

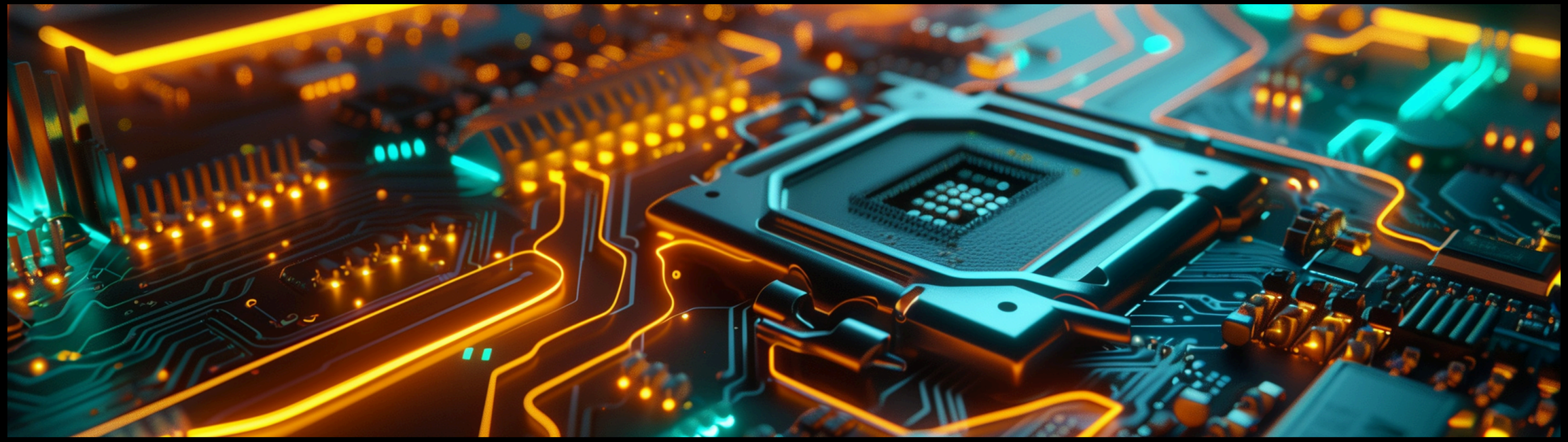
OUTLINES

164 Hours

AMIT

INTRODUCTION

Embedded Systems Diploma is designed to provide a comprehensive foundation in embedded systems, preparing learners for careers in this dynamic and rapidly growing field. This diploma equips participants with both theoretical knowledge and hands-on experience in key concepts, tools, and technologies essential for developing embedded solutions.
Embedded systems are the backbone of modern technology, powering devices across industries such as automotive, healthcare, consumer electronics, and industrial automation. By enrolling in this diploma, participants will gain a competitive edge through structured sessions covering programming fundamentals, system architecture, real-time operating systems (RTOS), and industry standards like AUTOSAR



DIPLOMA ROAD MAP

1. Introduction to Embedded Systems

- Introduction To Embedded Systems

2. C Programming & DATA STRUCTURES

- User Defined Data Types
- Data Structures
- Hello C
- Control Flow
- Functions
- Modular programming & Data Modifiers
- Pointers
- Arrays
- Arrays & Strings
- Algorithms

3. Embedded Systems Tooling

- Tooling 1

4.Interfacing With AVR microcontroller

- Computer Architecture
- Embedded C
- DIO peripheral
- DIO Interfaces
- Layered Architecture
- Seven Segment Display
- LCD 8-Bit
- LCD 4-Bit & Configuration Types
- Keypad
- Interrupts
- External Interrupt & Call Back
- ADC
- Timers 1 (Normal Mode)
- Timers 2 (CTC Mode & PWM)
- Timers 3 (Electrical Switches & Motors)
- Timers 4 (ICU & WDT)
- Communication & UART
- UART (Bluetooth, USB TTL)
- SPI
- I2C
- EEPROM

5.Automotive bus technology

- CAN & LIN

6.Real-Time Operating Systems (RTOS)

- RTOS (Real Time Concepts)
- RTOS (free RTOS)

7.AUTOSAR Standards

- AUTOSAR 1

Testing and Validation

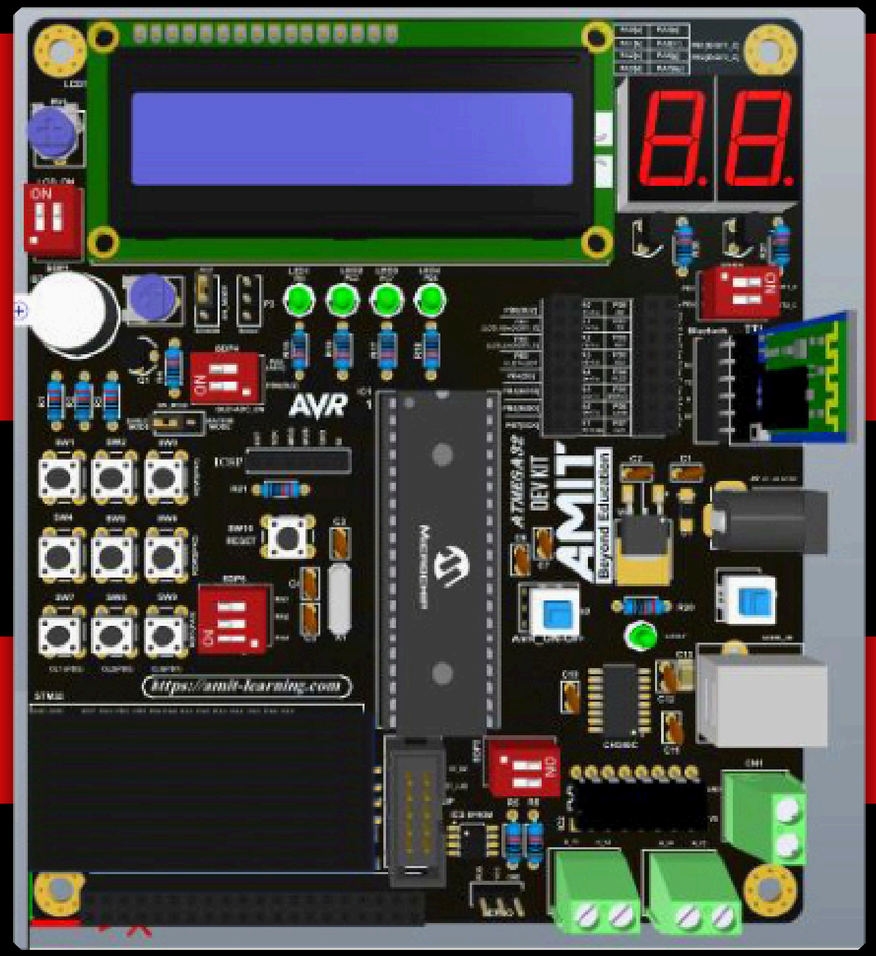
FREE OPTION

4 Sessions (16 Hours)

Topics: ISTQB Foundations and Software Testing V4

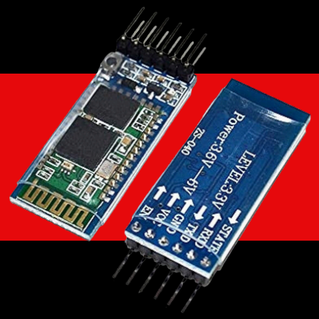
AMIT

FREE AMIT DEVELOPMENT KIT WITH AVR MICROCONTROLLER AND COMPATIBLE WITH ARM BLUE PILL, RASPBERRY PI)

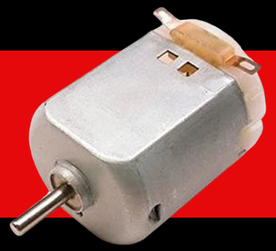


KIT MODULES:

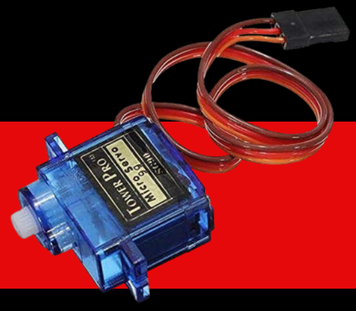
TTL



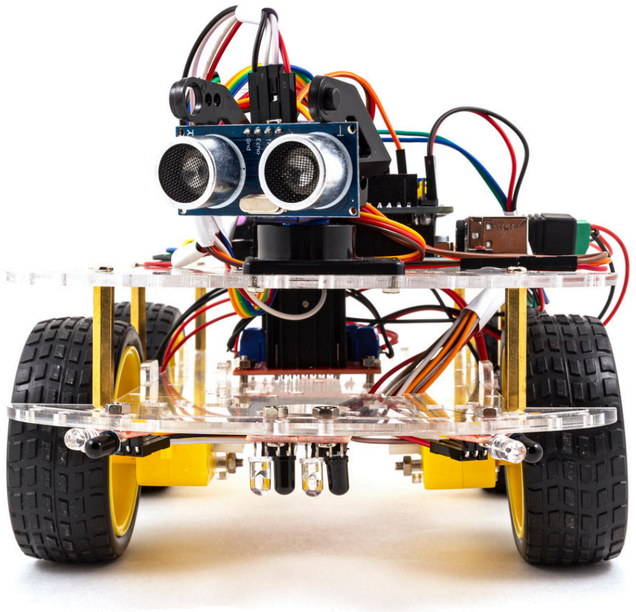
BLUETOOTH MODULE



DC MOTOR



SERVO MOTOR



REAL-LIFE GRADUATION PROJECT

WHY SHOULD I STUDY THIS DIPLOMA?

The embedded systems industry is booming! This diploma offers a unique blend of foundational knowledge and advanced technical skills, setting you apart in a competitive job market.

1.Build a Rock-Solid Foundation:
Start with core concepts like C programming, control flow, and data structures, providing a strong base for mastering advanced embedded systems concepts.

2.Gain In-Demand Expertise:
Master critical skills such as embedded C, real-time operating systems (RTOS), communication protocols, and industry-standard frameworks like AUTOSAR.

3.Hands-On Learning:
Engage in practical sessions with real-world applications, including interfacing peripherals, timers, and interrupts.

WHY SHOULD I STUDY THIS DIPLOMA?

4.Prepare for Diverse Career Paths:
The skills you acquire in this diploma prepare you for a wide range of career paths, from developing cutting-edge automotive electronics to designing smart home devices.

5.Learn from Industry Experts:
Gain valuable insights from experienced professionals in the embedded systems field.

6.Build a Strong Professional Network:
During the diploma, you'll have the opportunity to interact with peers, instructors, and industry professionals. Building this network can help you access job opportunities, collaborations, and career advice.

REAL-LIFE SCENARIOS & SIMULATIONS: PRACTICE YOUR SKILLS IN REALISTIC SCENARIOS.

1.Real-World Projects:
Gain hands-on experience through a series of challenging projects that simulate real-world embedded systems development scenarios.

2.Customized Development Kit:
Equipped with all the necessary hardware modules, you'll work on practical projects using the same tools and technologies employed by industry professionals.

3.Periodically Extra Workshops:
These specialized workshops provide opportunities to apply your knowledge in a practical setting. You'll work on mini-projects and simulations, gaining invaluable experience in developing and troubleshooting embedded systems.

3.Industry-Relevant Curriculum:
The curriculum is designed to reflect real-world challenges and best practices in embedded systems development, preparing you for the demands of the industry.

WHY AMIT

online or offline attending

+14 Years Of Experience And Counting

+30.000 Satisfied Students

WHY AMIT

Licensed by the Ministry of Communications and Information Technology

A registered member of the Information Technology Industry Development Agency (ITIDA)

Accredited by Egyptian Syndicate of Applicators

Accredited by Egyptian Syndicate of Engineers

Accredited by CISCO

The company is ISO 9001:2015 certified

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