



VENDORS NAME: ABE SEMICONDUCTORS

CLASS: III MECHATRONICS (Fifth Semester)

SUBJECT: AURDINO/ RASPBERRYPI TRAINING (ABE SEMICONDUCTOR)

SL.NO	Embedded Course Details	Days/Hrs
1	Embedded System Designs using ARM	2/20 Hrs
2	Advanced Embedded Designs using RTOS For ARM	2/20 hrs
3	Embedded Linux for ARM CPU	2/20 hrs

Syllabus for Each Modules:

Module 1: Embedded System Design Using ARM

AIM: To train the students in the areas of Embedded C programming Using ARM Boards.

CPU's Used : ARM -7TDMI S Core-LPC2148,LPC2129 Boards.

Topics Covered :

1. ARM Core Instruction and Instruction Level programming.
2. I/O Programming in ARM (LCD, LED, MOTORS, Keypads)
3. Sensor Interfacing (ADC,DAC)
4. UART Interfacing with Wireless Transceivers(Xbee Protocols, GSM.GPS)
5. Timers, PWM,PLL ,Interrupt Internal Programming
6. Communication Protocols Interfacing using SPI,I2C,USB
7. Mini-Project Execution.

Advantages :

1. The trainees will be exposed to cracked codes for ARM Programming
2. 101 % Hands –On Practical and 0% Theory.
3. ARM Boards will be provided to the batch students if they want to purchase we can issue the ARM boards to the students for 1,200.00 Only
4. Training will be Hardcore and this will be insist them to do their projects by own.
5. Focused For Corporates.
6. Course Completion Certificates will be given only after the exams

Trainer's Details : A.ATHIF SHAH ,Managing Director/ABE Semiconductor Designs, Chennai

Module 2: Embedded System Design Using RTOS for ARM

AIM : To train the students in the areas of Embedded C programming Using ARM Boards and exposed to RTOS Porting .

CPU's Used: ARM -7TDMI S Core-LPC2148,LPC2129 Boards. RTOS Use : Free RTOS, ucos-III

Topics Covered: (PART-1 For ARM Programming)

1. ARM Core Instruction and Instruction Level programming.
2. I/O Programming in ARM (LCD, LED, MOTORS, Keypads)
3. Sensor Interfacing (ADC,DAC)
4. UART Interfacing with Wireless Transceivers(Xbee Protocols, GSM.GPS)
5. Timers, PWM,PLL Internal Programming
6. Communication Protocols Interfacing using SPI,I2C,USB
7. Mini-Project Execution using ARM

PART-II(RTOS for ARM Programming)

1. Introduction to RTOS Environment For Embedded Programming
2. Task Creation Programming for LPC2148 boards
3. IPC for the LPC2148 Boards.
4. Multi-Threaded Applications in ARM boards.
5. Interrupt Handling in RTOS for Lpc2148 Boards.
6. Porting Of RTOS in ARM Boards.
7. Mini-project Execution

Advantages :

1. The trainees will be exposed to cracked codes for ARM and RTOS Programming
- 2.101 %Hands –On Practical and 0% Theory.
3. ARM Boards will be provided to the batch students if they want to purchase we can issue the ARM boards to the students for 1,200.00 Only
4. Training will be Hardcore and this will be insist them to do their projects by own.
- 5.Focused For Corporate

Trainer's Details : A.ATHIF SHAH , Managing Director/ABE Semiconductor Designs, Chennai

Module 3: Embedded Linux Design for ARM

AIM : To train the students in the areas of Embedded Linux programming Using ARM Boards

CPU 's Used : ARM -9TDMI S Core-S3C2440 Boards.

Topics Covered :

1. Introduction to Embedded Linux and Shell Programming.
2. Developing Embedded C Programming in Linux Environment
3. Cross-Compilers
4. U-Boot-Boot loaders
5. Root File Systems-JFFS2 X-Compilation
6. Kernel Compilation
7. Developing Device Drivers for 2440 Boards in Embedded Linux
8. Porting Embedded Linux on ARM
9. Mini-project Execution.

Advantages :

1. Exposed to Embedded Linux Programming to Different ARM boards.
2. 101 % Hands –On Practical and 0% Theory.
3. The course is currently in need for Industries.

Trainer's Details : A.ATHIF SHAH , Managing Director/ABE Semiconductor Designs, Chennai