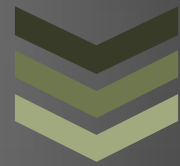


# PINE TRAINING ACADEMY



## Course Module

YOUR CAREER, OUR PASSION

6/10 Month Certified Course in  
Embedded System Design

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Pine Training Academy

4/18/2016

## Advanced Embedded System Design

Module	Detailed Syllabus	Tools Required
<b>Module – 1</b> Introduction to Embedded System	<ul style="list-style-type: none"> <li>❖ Introduction to Pine Training Academy.</li> <li>❖ Embedded System and its applications</li> <li>❖ Design Parameters of Embedded System and its significance</li> <li>❖ Embedded System Design Flow.</li> <li>❖ Analog and Digital Design Basic.</li> <li>❖ Test and Interview Series.</li> </ul>	
<b>Module – 2</b> Embedded Hardware Concepts.	<ul style="list-style-type: none"> <li>✓ Analog Signal Processing-</li> <li>✓ BEGINNING FOR SYSTEM DEVELOPMENT</li> <li>✓ STUDENT HELP TO KNOW HOW TO DESIGN ANALOG AND DIGITAL CIRCUIT.</li> <li>✓ Test and Interview Series.</li> </ul>	<ul style="list-style-type: none"> <li>• DSO(DIGITAL STORAGE OSILLOSCOPE ),</li> <li>• MULTI-METERS,</li> <li>• SIGNAL GENERTOR, POWER SUPPLY, PROTUS , PROJECTOR</li> </ul>
<b>Module – 3</b> ASSEMBLY AND C PROGRAMMING SKILL (EMBBEDDED C)	<ul style="list-style-type: none"> <li>❖ Programing Languages:-</li> <li>❖ Assembly level programing techniques.</li> <li>❖ Lab exercises:</li> <li>❖ REAL WORLD INTERFACING: LCD, Stepping Motor, ADC, DAC, LED, Push Buttons, Key board, Latch Interconnection, Different sensor, Memories.</li> <li>❖ Introduction to Compiler &amp; assembler and element of C programing and basic Labs for functions, pointers, structure and file handlings.</li> <li>❖ Basic of Embedded C and programming. Embedded C programming exercise on MCU EVM KIT and Renesas 8/16 bit platform</li> <li>❖ LANGUAGE IS MEDIUM TO COMMUNICATE WITH PROCESSOR, TO GET READY TO WRITE OPTIMISED, EFFICIENT CODE.</li> <li>❖ Test and Interview Series.</li> </ul>	<ul style="list-style-type: none"> <li>• GCC,</li> <li>• KIEL,</li> <li>• CCS,</li> <li>• ROWLY'S,</li> <li>• ICC AVR,</li> <li>• VC++</li> </ul>
<b>Module – 4</b> Computer Architecture	<ul style="list-style-type: none"> <li>❖ HELP TO UNDERSTAND: REGISTER LEVEL PROGRAMMING, LOW LEVEL DEVICE DRIVER, MULTI-CORE PROCESSOR and ITS WORKING.</li> <li>❖ Test and Interview Series.</li> </ul>	<ul style="list-style-type: none"> <li>• GCC</li> <li>• KIEL</li> <li>• VC++</li> </ul>

<b>Module – 5</b> <b>EMBEDDED</b> <b>PROGAMMING</b>	❖ GET EXPERTISE :- <ul style="list-style-type: none"> <li>• CONFIG PROCESSOR,</li> <li>• ISQ</li> <li>• ISR</li> <li>• UPPER HALF</li> <li>• BOTTOM HALF</li> <li>• PHERIPHARAL USAGE</li> </ul> ❖ Test and Interview Series.	<ul style="list-style-type: none"> <li>• VC++</li> <li>• KIEL</li> <li>• GCC</li> <li>• OTHER COMPILER AND ASSEMBLER</li> </ul>
<b>Module – 6</b> <b>PROJECT</b> <b>DEVELOPMENT</b> <b>AND</b> <b>MANAGEMENT</b> <b>TOOLS</b>	❖ HELP TO PROTECT AND MANAGE CODE AND PROJECT FROM ISSUE LIKE THEFT, LOOSING CODE AND PROPERTY. ❖ Test and Interview Series.	<ul style="list-style-type: none"> <li>• RCS</li> <li>• CVS</li> <li>• GIT</li> <li>• SOURCE CONROL AND OTHER METHODS</li> </ul>
<b>Module – 7</b> <b>OTHER</b> <b>OPERATING</b> <b>SYSTEM AND</b> <b>RTOS</b>	❖ HELP TO UNDERTANDING CONCEPT OF <ul style="list-style-type: none"> <li>• MULTITHREADING</li> <li>• MULTI PROCESSING</li> <li>• LIKE INTER PROCESS COMMUNICATION</li> <li>• INTER THREAD COMMUNICATION ,</li> <li>• THREADS</li> <li>• PROCESS</li> </ul> ❖ Test and Interview Series.	<ul style="list-style-type: none"> <li>• KIEL</li> <li>• GCC ON LINUX,</li> <li>• VC++</li> </ul>
<b>Module – 8</b> <b>LOW LEVEL</b> <b>PROGRAMMING</b>	❖ HELP HOW DRIVER TO WRITE, ❖ AND INSERT IN RUNNING OS ❖ LINUX FOR DEVICE DRIVER: CHAR, PARALLEL PORT, SERIAL PORT, BLOCK DEVICE DRIVER. ❖ Test and Interview Series.	<ul style="list-style-type: none"> <li>• GCC,</li> <li>• KERNEL,</li> <li>• FEDORA,</li> <li>• UBUNTU</li> </ul>
<b>Module – 9</b> <b>PROJECT</b> <b>DEVELOPMENT-</b> <b>PRODUCT</b> <b>DEVELOPMENT</b>	INDEPENDENTLY ACTIVITY, HELP TO GAIN CONFIDENCE ❖ Embedded Application Project: <ul style="list-style-type: none"> <li>• RF</li> <li>• Wireless</li> <li>• Control</li> <li>• Signal Processing</li> </ul> Depend on Students Capability.	<ul style="list-style-type: none"> <li>• PROTUES</li> <li>• KEIL</li> <li>• ROWLY</li> <li>• OR OTHER</li> </ul>

