Programmation et conception temps réel

Creating systems that work in real-time is a specific challenge. That's why **ac6-training**provides a range of courses to explain you all the specific techniques and tools to use in this context.

C8 Critical Systems Safety Embedded systems are more and more critical and subject to safety constraints. This training introduces the main concepts and standards applicable to safety-critical systems. 3 days **Inquiry**

STG STM32 + FreeRTOS + LwIP 5 days **Inquiry**

MC4 Multi-Core Programming with OSEK/VDX and AutoSAR Electronics Control Units used in Automotive systems are more and more powerful and are now using multicore processors, causing specific problems to integrate applications that may not have been designed with multicore in mind. This training helps you master multitask and real-time programming of multi-core processors in the Automotive sector, understanding how to effectively solve problems using the primitives provided by the underlying Operating System. 3 days **Inquiry**

RT1 Real Time and Multi-Core programming Real-time and embedded code, especially targetting multicore processors, cannot be effectively tested: it must be validated before coding. This training help you master multitask and real-time programming of multi-core processors, understanding how to effectively solve problems using the primitives provided by the underlying Operating System. 5 days **Inquiry**

RT3 FreeRTOS Real Time Programming FreeRTOS is a lightweight, real-time operating system (RTOS) designed to efficiently manage tasks in embedded applications. The Real-Time Programming with FreeRTOS course delves into the design and implementation of real-time applications using FreeRTOS. Covering essential topics such as task scheduling, synchronization, and memory management, this course equips professionals with the skills necessary to develop reliable and efficient real-time systems. Ideal for developers with a basic understanding of real-time systems and programming concepts, it provides a solid foundation in FreeRTOS development, enabling participants to design, implement, and debug robust embedded applications. 3 days **Inquiry**

RT5 Zephyr RTOS Programming Zephyr RTOS course, explore its ecosystem for embedded systems build system and West tool, configure Device Tree and Kconfig, create custom modules and drivers, and master GPIO, I2C, power management, memory analysis, user mode, threading, synchronization, mailboxes, Zbus, and interrupts. 5 days **Inquiry**

RT6 Real Time Programming with Eclipse ThreadX 3 days **Inquiry**

C7 UML Real-Time 4 days **Inquiry**

C9 Software Architecture with UML Embedded systems are increasingly complex and therefore can no more be directly designed using existing schemes. One need to first create a detailed architecture to control and plan their development and integration appropriately. This course will help address these phases efficiently and avoid common pitfalls. It will explain you why Software Architecture is needed and how architecture processes can be implemented in an enterprise environment. 4 days **Inquiry**

D4 Real-time Linux This course presents the various solutions for a real-time Linux and the tools to measure real-time performances. 4 days **Inquiry**

IOT1 Internet of Things (IoT) on Microcontrollers This course introduce the IoT ecosystem, describe the most used IoT Edge to Cloud Protocols (MQTT, MQTT-SN and CoAP), explore particularly heinous IoT focused attacks and security provisions at each level of stack (physical devices, communication systems and networks). This course explains how to configure the LwIP (with MQTT) FreeRTOS and MbedTLS for a microcontroller-based IoT application; it requires previous knowledge of FreeRTOS. 3 days **Inquiry**

L5 Real-time Java 3 days **Inquiry**

TI3 Cortex M4 Texas Instruments Implementation and TI-RTOS This course describes the Texas Instruments ARM Cortex M4F implementation and TI-RTOS real-time programming 4 days **Inquiry**