

### Embedded and Real-Time Programming Languages

**ac6-formation** provides trainings on the various languages used in embedded systems. We propose courses on C, C++, Java and Python. Our courses are tailored to the use of these languages in the embedded world context, with exercises targeting these environments.

#### Main Courses

**L2 - C language for Embedded MCUs** Learning how to program a Microcontroller (especially the Cortex-M based ones)

**L3 - Embedded C++** The C++ Language for Embedded Systems

**L4 - Industrial Java** Developing Industrial Applications in Java(TM)

**L4G - Java for Android** Java for Android Applications Programming The Google Android system is becoming more prominent in the world of mobile devices and can be found both in the general public domain and in the industrial world. Programming Android applications requires a thorough knowledge of some advanced aspects of the Java language. This course covers these aspects without addressing the points not used on Android or covered in the Android courses. knowledge of issues it addresses is a prerequisite for writing Android applications or to work on the source code of the Android platform.

**L5 - Real time Java** Programmation temps réel en Java(TM)

**L8 - Python** Programming with the Python Language Learn to program in an OS independent way using the Python language.

**L9 - OpenCL** Parallel programming with OpenCL-1.2 High Performance Computing (HPC) is more and more frequent in embedded systems, for graphics rendering, virtual reality of parallel computing. The OpenCL language allows to program in a more or less hardware-independent way complex parallel algorithms that will be able to run on various hardware platforms.

**L10 - Embedded Modern C++ Programming** The Modern C++ Language for Embedded Systems

**L30 - Classic and Modern C++ for Embedded Systems** This course is the combination of the L3 - Embedded C++ course and L10 - Embedded Modern C++ Programming course; it is intended for engineers that switch from C programming to C++ and want to learn everything about classic and modern C++ programming for embedded systems.

#### Additional Courses

**E1 - Eclipse** Utilisation de l'environnement de développement Eclipse pour C, C++ et Java(TM)

**RT1 - Real Time and Multi-Core programming** Programming Linux real-time and multi-core systems, avoiding common pitfalls 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.

**STG - STM32 + FreeRTOS + LwIP** This course covers the STM32 ARM-based MCU family, the FreeRTOS Real Time OS, the LWIP TCP/IP Stack and/or the EmWin GUI Stack

**V1 - VHDL Language Basics** FPGA Programming and Simulation with VHDL

**V2 - Advanced VHDL for FPGA** Acquire a strong design methodology with the best of VHDL for simulation and synthesis

**V3 - Design with SystemC** System Design and Simulation with SystemC