

Embedded and Real-Time Programming Languages

These courses are designed for developers with a basic understanding of programming concepts and are suitable for a wide range of applications, including the development of real-time systems, firmware, and drivers.

The C, C++ languages, and OpenCL for embedded systems category includes courses on language fundamentals, advanced programming techniques, and the use of these technologies in specific embedded systems applications. **oL2 - C Language for Embedded MCUs** The course covers topics such as language fundamentals, advanced programming techniques, and the use of C in specific embedded systems applications. It is suitable for developers with a basic understanding of programming concepts and is designed to provide a strong foundation in C programming for embedded systems.

Upon completion of the course, attendees will be able to develop reliable and efficient software for microcontroller-based systems using C with confidence.

oL3 - Embedded C++ Programming The course covers topics such as language fundamentals, the use of C++ templates in embedded systems, advanced aspects such as polymorphism and inheritance, dynamic memory allocation in embedded applications, and the management of C++ exceptions for secure embedded applications.

Additionally, students will learn how to use C++ objects to handle serial transmission/reception of character strings.

oL9 - OpenCL Parallel programming with OpenCL 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.

oL10 - Embedded Modern C++ Programming The Modern C++ Language for Embedded Systems

oL30 - Classic and Modern C++ for Embedded Systems This course is the combination of the [oL3 - Embedded C++ Programming](#) course and [oL10 - 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.