

Industrial computing

Number of ECTS credits: 3

Coefficient: 3

Description:

The course Industrial Computing aims to introduce students to C ++ programming on the C ++ 11 standard for scientific, technical and industrial applications and to introduce the fundamental notions of real-time programming. It processes the numeric types and associated qualifiers (pointer and reference), arrays, control structures, flows, functions, objects, classes, containers and iterators, processes and threads, scheduling . The concepts are illustrated on simulation applications of sequential and dynamic systems and the reactive control of a mobile robot Khepera embedding a processor connected to two dsPic microcontrollers by I2C bus.

Pedagogical objectives:

Analysis of scientific, technical or industrial problems to determine the structure of the corresponding applications

Developing C ++ applications in Console mode; Development of reactive controls for autonomous robots

Bibliography:

Prerequisite: C Programming

Lectures Hours: 4

Tutorials Hours: 12.5

Labs Hours: 12

Knowledge monitoring modalities: 100% continuous assessment

Assessment: 1 lab score, 1 exam

Leader: Sounkalo DEMBELE

Participants: