



SYSTÈMES EMBARQUÉS SÉCURISÉS

SECURE EMBEDDED SYSTEMS

Lecturers: Cédric MARCHAND

| Lecturers : 16.0 | TC : 0.0 | PW : 8.0 | Autonomy : 0.0 | Study : 4.0 | Project : 0.0 | Language : MI

Objectives

Embedded systems are everywhere, whether in our pockets, homes or cars, but also in industry, aeronautics or the space sector. More and more of these systems are used in applications where the data handled is sensitive and must be protected. With the increase of Internet of things ecosystems, a particular interest in security problems arises among the general public, notably with contactless payment, connected electricity meters, home automation, etc.

Throughout this course, we will discuss the basic principles of security as well as their integration into

Keywords : Embedded System, Security, cryptography, hardware attacks and countermeasures

Programme

This module is divided in 8*2h of lectures and 2*4h of practical sessions. A 4h session is also used to prepare the practical sessions.

First, we introduce basic notions of embedded systems and security with 3 lectures:

- 1 - Introduction course : definition of embedded system, security and global challenge and opportunities
- 2 - Introduction to embedded systems, microcontroller and FPGA
- 3 - Introduction to cryptography

Learning outcomes

Independent study

Objectifs : This activity is not concerned with framed autonomy activities outside personal work.

Méthodes : This activity is not concerned with framed autonomy activities outside personal work.

Core texts

Assessment

Final mark = 70% knowledge + 30% Know-How
Knowledge mark = 100% final exam
Know-how mark = 100% continuous assessment