

# Dependability

 **ECTS**  
7 credits **Component**  
INSTITUT  
NATIONAL  
DES SCIENCES  
APPLIQUEES  
TOULOUSE **Number of  
hours**  
58h

## Presentation

### Description

Programme (detailed contents):

The purpose of this UF is to introduce the main principles of dependability (SDF): the basic concepts and the main methods and techniques to get it

A first course gives a general introduction to the Dependability specifying terminology, attributes, resources, ...

Specific courses allow you to go a little further in this panorama mainly illustrating the means - Prevention through modeling -

following the timed synchronous and asynchronous paradigms - Elimination of faults through the static verification of sequential programs and diagnostics.

Organisation:

5 parts, each including lectures, tutorials and lab work

Introduction to dependability

Program Verification

Synchronous programming

Temporal models

Diagnostic

A MOOC allows the student to synthetise all the notions of this UF and to reinforce some.

All methods, tools and good practices presented in the UF will be used during a transversal project of development of a critical embedded system.

### Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

the basic concepts of dependability and main methods and techniques for obtaining and validation of the safety.

The student will be able to:

- apply these general competences to computer based embedded systems

explain different methods and chose the best adapted to develop a specific application.

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## Pre-requisites

Discrete event systems - linear continuous systems (modelling and control) - System design : software design and programming - fuzzy logic - neural networks

## Useful info

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### Contacts

#### Education manager

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### Place

➤ Toulouse