Simulation of networks and telematics applications

Academic Year: (2020 / 2021)   **Review date: 16-07-2020**

Department assigned to the subject:

Coordinating teacher: SERRANO YAÑEZ-MINGOT, PABLO

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

It is required to have some basic knowledge of statistics and probability, plus some programming skills.

OBJECTIVES

Critical analysis of a simulation tools capabilities, in particular with respect to telematics engineering problems.
Analysis and evaluation of the results from a simulation tool.

DESCRIPTION OF CONTENTS: PROGRAMME

Fundamentals of simulation for telematics. Variables to consider, modules, simulation time handling.
Core elements of a discrete-event simulator tool: event handling, time advance.
Development of a simulation project, presentation and defense.
Simulation environments for discrete-event simulation.

LEARNING ACTIVITIES AND METHODOLOGY

Classroom lectures, exposing the fundamentals of simulations.
Laboratory classes, where the focus is set on developing simulation tools and on their use.

ASSESSMENT SYSTEM

80% continuous assessment based on laboratories, consisting on the development of a simulation tool and the use of a simulation framework.

20% final exam

% end-of-term-examination:	20
% of continuous assessment (assigments, laboratory, practicals…):	80

BASIC BIBLIOGRAPHY

 - Averill M. Law Simulation Modeling and Analysis, McGraw-Hill, 2015