

Academic Year: (2019 / 2020)

Review date: 23-04-2020

Department assigned to the subject:

Coordinating teacher: BERLANGA DE JESUS, ANTONIO

Type: Electives ECTS Credits : 3.0

Year : 1 Semester : 2

OBJECTIVES

The learner will acquire strategies for:
 How to model a multi-objective problem.
 How to define the parameters of an experiment.
 Perform simulations in virtual environments.
 How to model conversational agents.

DESCRIPTION OF CONTENTS: PROGRAMME

AI Optimization Techniques
 Practical applications of optimization
 AI techniques for modeling
 Real world applications modeled with AI
 Simulation as a tool for system evaluation
 Integration of AI techniques in simulation: modeling and evaluation
 Design and evaluation of complex systems
 Process mining
 Multiobjective Optimization

LEARNING ACTIVITIES AND METHODOLOGY

Presentation and round table of student work.
 Practical implementation using the computer.

ASSESSMENT SYSTEM

There will be weekly homeworks with both written and programming parts.

Extraordinary Examination:
 Final Exam

% end-of-term-examination:	0
% of continuous assessment (assignments, laboratory, practicals...):	100

BASIC BIBLIOGRAPHY

- Carlos A. Coello Coello and Gary B. Lamont. Applications of Multi-Objective Evolutionary Algorithms, World Scientific, 2004
- Diana Perez-Marin and Ismael Pascual-Nieto Conversational Agents and Natural Language Interaction: Techniques and Effective Practices, IGI Global, 2011
- Jack P. C. Kleijnen, Susan M. Sanchez, Thomas W. Lucas, and Thomas M. Cioppa State-of-the-Art Review: A User's Guide to the Brave New World of Designing Simulation Experiments., INFORMS J. on Computing 17, 3 (July 2005), 2005
- Joshua Knowles, David Corne, Kalyanmoy Deb Multiobjective Problem Solving from Nature: From Concepts to Applications, Springer,, 2008
- Montgomery, D.C Design and Analysis of Experiments, Wiley, 2013
- W.M.P. van der Aalst, Process Mining: Discovery, Conformance and Enhancement of Business Processes, Springer , 2011

