

Course Unit Description - (FISIS)

(Systems Liability)

(Mestrado em Engenharia Electrotécnica e de Computadores)

Academic year: 2009/2010



Subject group: Ciências Básicas da Electrotecnia

Semestral Compulsory

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| Mode of study | Diurno | Hours/Week | T-Teórica | 2 |
| Year | 1 ^o | | PL-Prática-Laboratorial | 2 |
| Semester | 2 ^o | | OT-Orientação Tutorial | 1 |

ECTS 6

Objectives

The objective of this course is to provide the student with a basic training about evaluation technics and improvement of systems.

Course Contents

Reliability: General concepts
Reliability measurement
Reliability analysis in simple systems
Reliability analysis in complex systems
Markov Models
Monte Carlo Simulation
Reliability of electronic systems and software

Recommended reading

Reliability Evaluation of Engineering Systems – Concepts and Techniques
Second Edition
Roy Billinton, Ronald N. Allan
ISBN 0-306-44063-6

Reliability of Computer Systems and Networks - Fault Tolerance, Analysis and Design
Martin L. Shooman
ISBN 0-471-29342-3

Practical Reliability Engineering
Fourth Edition
Patrick D. T. O'Connor
ISBN 0-470-84462-0

Manutenção Centrada na Fiabilidade
Rui Assis
ISBN 972-757-037-2

Articles and didactical publications.

Teaching Methods

Theoretical presentation with slides complemented with examples and small exercises

Tutorial and Lab classes: exercises solving and discussion.

Assessment methods

Project work during the semester: 60% of the final result
Final Exam: 40% of the final result

Minimum in final exam: 8/20 points

| | Name |
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| Teacher responsible: | Alexandre Paulo Maia Pinheiro (APP) |
| Lecturer: | Alexandre Paulo Maia Pinheiro (APP) Ana Maria Marques Moura Gomes Viana (AGV) |

