Course Unit Description - (LASET)

(Technology and Embedded Systems Laboratory)

(Mestrado em Engenharia Electrotécnica e de Computadores)

Academic year: 2009/2010

Subject group: Automação e Robótica

	Semestral	**Compulsory**		
Mode of study	Diurno	**Hours / Week**	**PL-**Prática-Laboratorial	9
			OT-Orientação Tutorial	1
Year	1º			
Semester	1º			

ECTS 9

Objectives

This course intends to provide the problem solving skills and methodologies to address the development of a embedded sensory system for a specific problem. This course has a integrator role of knowledge from the embedded systems, sensors and perception, and robotics courses.

Course Contents

Analise and Requirements for Embedded Systems
Design and Implementation of Embedded Systems

Recommended reading

Art of Systems Architecting, Eberhardt Rechtin, Mark Maier, CRC Press, 2002
Embedded Microprocessor Systems (Embedded Technology Series): Real World Design Stuart Ball, Elsevier Books, 2002
Sensors for Mobile Robots, H. R. Everett, AK Peters Publishers, 1995
J. Borenstein, H. R. Everett, and L. Feng, “Navigating Mobile Robots: Sensors and Techniques”, AK Peters, Ltd. , 1996
An Behavior-based Robotics, Ronald C. C. Arkin, MIT Press, 1998
Embedded Robotics,Thomas Braunl, Springer Verlag, 2004
Autonomous Mobile Robots: Vehicles With Cognitive Control, A. Meystel, World Scientific, 1991

Teaching Methods

Project analysis and development.

Assessment methods

The final grade is composed by the assessment of the outcomes from the different project development phases (requirement analysis, project and implementation)

	Name
Teacher responsible:	José Miguel Soares de Almeida (JSA)
Lecturer:	Alfredo Manuel Oliveira Martins (AOM) João Paulo da Costa Baptista (JPB) José Miguel Soares de Almeida (JSA) Luis Miguel Vieira Lima (LUL) Hugo Miguel Gomes da Silva (HMS) Carlos Eduardo Valente Almeida (CEA)