



POLITÉCNICA

INTERNATIONAL
CAMPUS OF
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COORDINATION PROCESS OF
LEARNING ACTIVITIES
PR/CL/001



E.T.S. de Ingenieros
Industriales

ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

53001155 - Distributed real - time embedded systems

DEGREE PROGRAMME

05AY - Master Universitario en Automatica y Robotica

ACADEMIC YEAR & SEMESTER

2017/18 - Semester 2

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1. Description

1.1. Subject details

Name of the subject	53001155 - Distributed real - time embedded systems
No of credits	1 ECTS
Type	Optional
Academic year of the programme	First year
Semester of tuition	Semester 2
Tuition period	February-June
Tuition languages	English
Degree programme	05AY - Master Universitario en Automatica y Robotica
Centre	Escuela Tecnica Superior de Ingenieros Industriales
Academic year	2017-18

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Ricardo Sanz Bravo (Subject coordinator)	Automatica	ricardo.sanz@upm.es	M - 15:30 - 17:30

* The tutoring schedule is indicative and subject to possible changes. Please check tutoring times with the faculty member in charge.

3. Prior knowledge recommended to take the subject

3.1. Recommended (passed) subjects

El plan de estudios Master Universitario en Automatica y Robotica no tiene definidas asignaturas previas recomendadas para esta asignatura.

3.2. Other recommended learning outcomes

- Knowledge on real-time systems programming

4. Skills and learning outcomes *

4.1. Skills to be learned

CG1 - Tener conocimientos adecuados de los aspectos científicos y tecnológicos de la automática y la robótica

4.2. Learning outcomes

RA32 - 2. El alumno conocerá las arquitecturas mas relevantes en DRES.

RA33 - 3. El alumno conocerá el middleware CORBA de tiempo-real.

RA34 - 4. El alumno podrá realizar una implementación.

RA31 - 1. El alumno conocerá la naturaleza de los sistemas distribuidos de tiempo real.

* The Learning Guides should reflect the Skills and Learning Outcomes in the same way as indicated in the Degree Verification Memory. For this reason, they have not been translated into English and appear in Spanish.

5. Brief description of the subject and syllabus

5.1. Brief description of the subject

- The DRTS Course focus on the technologies for implementation of software-intensive **Distributed Real-time Embedded (DRE) Systems** based on CORBA technology.
- Real-time Systems
- Distributed Systems
- DRE Systems
- CORBA and Real-time CORBA
- Other platforms: Flexray, TTP, DDS

5.2. Syllabus

1. Real-time Systems
2. Distributed Systems
3. DRE Systems
4. CORBA and Real-time CORBA

6. Schedule

6.1. Subject schedule*

Week	Face-to-face classroom activities	Face-to-face laboratory activities	Other face-to-face activities	Assessment activities
1	RT Systems Duration: 02:00 Lecture			No hay evaluación continua Individual work Continuous assessment Duration: 00:00
2	Distributed Systems Duration: 02:00 Lecture			No hay evaluación continua Individual work Continuous assessment Duration: 00:00
3	DRE Systems Duration: 02:00 Lecture			No hay evaluación continua Individual work Continuous assessment Duration: 00:00
4	CORBA Duration: 02:00 Lecture			No hay evaluación continua Individual work Continuous assessment Duration: 00:00
5	RT CORBA Duration: 02:00 Lecture			No hay evaluación continua Individual work Continuous assessment Duration: 00:00
6				Trabajo RT CORBA Individual work Final examination Duration: 00:00
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

The independent study hours are training activities during which students should spend time on individual study or individual assignments.

Depending on the programme study plan, total values will be calculated according to the ECTS credit unit as 26/27 hours of student face-to-face contact and independent study time.

* The subject schedule is based on a previous theoretical planning of the subject plan and might go to through

experience some unexpected changes along throughout the academic year.

7. Activities and assessment criteria

7.1. Assessment activities

7.1.1. Continuous assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
1	No hay evaluacion continua	Individual work	Face-to-face	00:00	20%	5 / 10	CG1
2	No hay evaluacion continua	Individual work	Face-to-face	00:00	20%	5 / 10	
3	No hay evaluacion continua	Individual work	Face-to-face	00:00	20%	5 / 10	
4	No hay evaluacion continua	Individual work	Face-to-face	00:00	20%	5 / 10	
5	No hay evaluacion continua	Individual work	Face-to-face	00:00	20%	5 / 10	

7.1.2. Final examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
6	Trabajo RT CORBA	Individual work	No Presential	00:00	100%	5 / 10	CG1

7.1.3. Referred (re-sit) examination

No se ha definido la evaluación extraordinaria.

7.2. Assessment criteria

The work must demonstrate the performance improvement of a distributed system using the real-time CORBA API versus the conventional CORBA API.

8. Teaching resources

8.1. Teaching resources for the subject

Name	Type	Notes
Moodle	Web resource	Documentation on the technologies used in the course (esp. CORBA)