



POLITÉCNICA

INTERNATIONAL
CAMPUS OF
EXCELLENCE

COORDINATION PROCESS OF
LEARNING ACTIVITIES
PR/CL/001



E.T.S. de Ingenieros
Informáticos

ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

103000684 - Large scale systems project

DEGREE PROGRAMME

10AP - Eit Digital Master's Programme In Data Science

ACADEMIC YEAR & SEMESTER

2018/19 - Semester 1

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Learning guide

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1. Description

1.1. Subject details

| | |
|---------------------------------------|--|
| Name of the subject | 103000684 - Large scale systems project |
| No of credits | 3 ECTS |
| Type | Compulsory |
| Academic year of the programme | First year |
| Semester of tuition | Semester 1 |
| Tuition period | September-January |
| Tuition languages | English |
| Degree programme | 10AP - Eit digital master's programme in data science |
| Centre | 10 - Escuela Tecnica Superior de Ingenieros Informaticos |
| Academic year | 2018-19 |

2. Faculty

2.1. Faculty members with subject teaching role

| Name and surname | Office/Room | Email | Tutoring hours * |
|--|--------------------|---------------------|---|
| Tonghong Li | 2312 | tonghong.li@upm.es | M - 14:00 - 16:00 W - 14:00 - 16:00 Th - 14:00 - 16:00 |
| Marta Patiño Martínez (Subject coordinator) | 2313 | marta.patino@upm.es | Tu - 12:00 - 14:00 Th - 10:00 - 12:00 Th - 14:00 - 15:00 Please, send an email in order to minimize waiting time |

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

2.2. Research assistants

| Name and surname | Email | Faculty member in charge |
|---------------------|-------------------------|--------------------------|
| Vianello ., Valerio | valerio.vianello@upm.es | Patiño Martinez, Marta |

2.3. External faculty

| Name and surname | Email | Institution |
|------------------|--------------------|-------------|
| Ainhoa Azqueta | aazqueta@fi.upm.es | UPM |

3. Skills and learning outcomes *

3.1. Skills to be learned

CE09 - Capacidad para diseñar y evaluar sistemas operativos y servidores, y aplicaciones y sistemas basados en computación distribuida.

CE10 - Capacidad para comprender y poder aplicar conocimientos avanzados de computación de altas prestaciones y métodos numéricos o computacionales a problemas de ingeniería.

3.2. Learning outcomes

RA16 - Conocer las aplicaciones y sistemas basados en computación distribuida

* 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.

4. Brief description of the subject and syllabus

4.1. Brief description of the subject

Different topics for building a large scale project will be presented. Students will do practical work on those topics

4.2. Syllabus

1. Practical Assignment I (Kafka)
2. Practical Assignment II (Performance Evaluation)
3. Practical Assignment III (Benchmarking)

5. Schedule

5.1. Subject schedule*

| Week | Face-to-face classroom activities | Face-to-face laboratory activities | Other face-to-face activities | Assessment activities |
|------|--|------------------------------------|-------------------------------|--|
| 1 | Practical Assignment I Duration: 02:00 Lecture | | | |
| 2 | Practical Assignment I Duration: 02:00 Cooperative activities | | | |
| 3 | Practical Assignment I Duration: 02:00 Cooperative activities | | | |
| 4 | Practical Assignment I Duration: 02:00 Cooperative activities | | | |
| 5 | Practical Assignment I Duration: 02:00 Cooperative activities | | | |
| 6 | Practical Assignment II Duration: 02:00 Lecture | | | |
| 7 | Practical Assignment II Duration: 02:00 Cooperative activities | | | Practical Assignment I Problem-solving test Continuous assessment Duration: 02:00 |
| 8 | Practical Assignment II Duration: 02:00 Cooperative activities | | | |
| 9 | Practical Assignment II Duration: 02:00 Cooperative activities | | | |
| 10 | Practical Assignment II Duration: 02:00 Cooperative activities | | | |
| 11 | Practical Assignment II Duration: 02:00 Cooperative activities | | | |
| 12 | Practical Assignment III Duration: 02:00 Lecture | | | Practical Assignment II Problem-solving test Continuous assessment Duration: 02:00 |
| 13 | Practical Assignment III Duration: 02:00 Cooperative activities | | | |

| | | | | |
|----|--|--|--|--|
| 14 | Practical Assignment III Duration: 02:00 Cooperative activities | | | |
| 15 | Practical Assignment III Duration: 02:00 Cooperative activities | | | |
| 16 | Practical Assignment III Duration: 02:00 Cooperative activities | | | Practical Assignment III Problem-solving test Continuous assessment Duration: 02:00 Exam Written test Final examination Duration: 02:00 |
| 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.

6. Activities and assessment criteria

6.1. Assessment activities

6.1.1. Continuous assessment

| Week | Description | Modality | Type | Duration | Weight | Minimum grade | Evaluated skills |
|------|--------------------------|----------------------|--------------|----------|--------|---------------|------------------|
| 7 | Practical Assignment I | Problem-solving test | Face-to-face | 02:00 | 30% | 4 / 10 | CE10 CE09 |
| 12 | Practical Assignment II | Problem-solving test | Face-to-face | 02:00 | 35% | 5 / 10 | CE10 CE09 |
| 16 | Practical Assignment III | Problem-solving test | Face-to-face | 02:00 | 35% | 5 / 10 | CE10 CE09 |

6.1.2. Final examination

| Week | Description | Modality | Type | Duration | Weight | Minimum grade | Evaluated skills |
|------|-------------|--------------|--------------|----------|--------|---------------|------------------|
| 16 | Exam | Written test | Face-to-face | 02:00 | 100% | 5 / 10 | CE10 CE09 |

6.1.3. Referred (re-sit) examination

| Description | Modality | Type | Duration | Weight | Minimum grade | Evaluated skills |
|-------------|--------------|--------------|----------|--------|---------------|------------------|
| Exam | Written test | Face-to-face | 02:00 | 100% | 5 / 10 | CE10 CE09 |

6.2. Assessment criteria

Evaluación continua

7. Teaching resources

7.1. Teaching resources for the subject

| Name | Type | Notes |
|--------|--------------|--------------------------|
| Slides | Web resource | Slides and web resources |