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INTERNATIONAL
CAMPUS OF
EXCELLENCE

POLITÉCNICA

ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

103000380 - Management strategies and non-classical software development methodologies

DEGREE PROGRAMME

10AK - Master Universitario en Software y Sistemas

ACADEMIC YEAR & SEMESTER

2017/18 - Semester 1

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1. Description

1.1. Subjet details

Name of the subject	103000380 - Management strategies and non-classical software development methodologies
No of credits	4 ECTS
Type	Optional
Academic year ot the programme	First year
Semester of tuition	Semester 1
Tuition period	September-January
Tuition languages	English
Degree programme	10AK - Master Universitario en Software y Sistemas
Centre	Escuela Tecnica Superior de Ingenieros Informaticos
Academic year	2017-18

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Ana Maria Moreno Sanchez-Capuchino (Subject coordinator)	5102	anamaria.moreno@upm.es	M - 15:00 - 21:00

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

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3. Skills and learning outcomes *

3.1. Skills to be learned

CEM3 - Aplicar métodos de investigación relevantes a problemas abiertos en el área de la Ingeniería del Software, relacionados tanto con las características peculiares del producto software como con la gestión del desarrollo del mismo

CEM4 - Analizar y evaluar los diferentes paradigmas y enfoques de ingeniería de construcción y gestión de sistemas basados en software.

CG12 - Comprensión amplia de las técnicas y métodos aplicables en una especialización concreta, así como de sus límites

CG13 - Apreciación de los límites del conocimiento actual y de la aplicación práctica de la tecnología más reciente.

CG14 - Conocimiento y comprensión de la informática necesaria para la creación de modelos de información, y de los sistemas y procesos complejos

CG17 - Habilidades de gestión y capacidad de liderar un equipo que puede estar integrado por disciplinas y niveles distintos.

CG4 - Que los estudiantes posean las habilidades de aprendizaje que les permitan continuar estudiando de un modo que habrá de ser en gran medida autodirigido o autónomo.

CG7 - Especificación y realización de tareas informáticas complejas, poco definidas o no familiares

CG8 - Planteamiento y resolución de problemas también en áreas nuevas y emergentes de su disciplina

CG9 - Aplicación de los métodos de resolución de problemas más recientes o innovadores y que puedan implicar el uso de otras disciplinas

CGI20 - Adquirir conocimientos científicos avanzados del campo de la informática que le permitan generar nuevas ideas dentro de una línea de investigación.

CGI23 - Capacidad de leer y comprender publicaciones dentro de su ámbito de estudio/investigación, así como su catalogación y valor científico

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3.2. Learning outcomes

RA28 - Analizar investigaciones pioneras que pretendan cubrir debilidades en las actividades de estimación y planificación de proyectos llevados a cabo con metodologías no clásicas

RA29 - Identificar debilidades en las actividades de análisis y diseño de proyectos llevados a cabo con metodologías no clásicas.

RA30 - Analizar investigaciones pioneras que pretendan cubrir debilidades en las actividades de requisitos y diseño de proyectos llevados a cabo con metodologías no clásicas

RA27 - Identificar debilidades en las actividades de estimación y planificación de proyectos llevados a cabo con metodologías no clásicas.

* 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

This subjects provides an overview of the agile development process. We will review the main differences with traditional development and how agile practices can be used to solve some importan lacks in classical methods.

We will also cover the main agile practices and methods used nowadays in industry.

We will work in agile teams to build a software product according to the previous practices and methods.

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4.2. Syllabus

1. Agile Artifacts

2. Fundamentals of Agile Development

3. Description of Agile Methods

    3.1. XP

    3.2. Scrum

    3.3. Kanban

    3.4. FDD

    3.5. Comparisson of Agile Methods

4. Agile Usability

    4.1. The User/Customer Role in Agile Methods

    4.2. Implications of Usability Mechanisms in the Agile Artefacts

    4.3. Implications of Usability in the Agile Process

5. Agile Project

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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	**Unit 1. Agile Artifacts** Duration: 02:00 Cooperative activities			
2	**Unit 2. Fundamentals of Agile Development** Duration: 02:00 Cooperative activities			
3	**Unit 2. Fundamentals of Agile Development** Duration: 02:00 Cooperative activities			
4	**Unit 2. Fundamentals of Agile Development** Duration: 02:00 Cooperative activities			
5	**Unit 3. Description of Agile Methods** Duration: 02:00 Cooperative activities			
6	**Unit 3. Description of Agile Methods** Duration: 02:00 Cooperative activities			
7	**Unit 3. Description of Agile Methods** Duration: 02:00 Cooperative activities			**Presentation of Report 1** Group presentation Continuous assessment and final examination Duration: 00:30 **Description of Report 1** Group work Continuous assessment and final examination Duration: 00:00
8	**Unit 4. Agile Usability** Duration: 02:00 Cooperative activities			
9	**Unit 4. Agile Usability** Duration: 02:00 Cooperative activities			
10	**Unit 4. Agile Usability** Duration: 02:00 Cooperative activities			

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11	**Unit 5. Agile Project** Duration: 02:00 Cooperative activities			
12	**Unit 5. Agile Project** Duration: 02:00 Cooperative activities			**Presentation of Project** Group work Continuous assessment Duration: 00:30 **Presentation of Project** Individual presentation Final examination Duration: 00:30
13	**Unit 5. Agile Project** Duration: 02:00 Cooperative activities		Unit 5 Duration: 02:00 Additional activities	
14	**Unit 5. Agile Project** Duration: 02:00 Cooperative activities			**Presentation of Project** Group work Continuous assessment Duration: 00:30
15	**Unit 5. Agile Project** Duration: 02:00 Cooperative activities		Unit 5 Duration: 02:00 Additional activities	
16	**Unit 5. Agile Project** Duration: 02:00 Cooperative activities			**Presentation of Project** Group work Continuous assessment Duration: 00:30
17				**Descrption of the Project Report** Group work Continuous assessment and final examination Duration: 00:00 **Active Participation of Students** Other assessment Continuous assessment and final examination Duration: 00:00

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 theorical planning of the subject plan and might go to through experience some unexpected changes along throughout the academic year.

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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	Presentation of Report 1	Group presentation	Face-to-face	00:30	5%	5 / 10	CEM4 CEM3 CGI20 CGI23
7	Description of Report 1	Group work	No Presential	00:00	20%	5 / 10	CEM4 CEM3 CGI20 CGI23
12	Presentation of Project	Group work	Face-to-face	00:30	5%	5 / 10	CEM4 CG4 CG8 CG9 CEM3 CG7 CG12 CG13 CG14 CG17 CGI20
14	Presentation of Project	Group work	Face-to-face	00:30	5%	5 / 10	CEM4 CG4 CG8 CG9 CEM3 CG7 CG12 CG13 CG14 CG17 CGI20
16	Presentation of Project	Group work	Face-to-face	00:30	5%	5 / 10	CG4 CG8 CEM4 CG9 CEM3 CG7 CG12 CG13 CG14

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Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
							CG17 CGI20
17	Descrption of the Project Report	Group work	No Presential	00:00	50%	5 / 10	CEM4 CG4 CG8 CG9 CEM3 CG7 CG12 CG13 CG14 CG17 CGI20
17	Active Participation of Students	Other assessment	No Presential	00:00	10%	0 / 10	CG8 CG13 CG14 CGI20

6.1.2. Final examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
7	Presentation of Report 1	Group presentation	Face-to-face	00:30	5%	5 / 10	CEM4 CEM3 CGI20 CGI23
7	Description of Report 1	Group work	No Presential	00:00	20%	5 / 10	CEM4 CEM3 CGI20 CGI23
12	Presentation of Project	Individual presentation	Face-to-face	00:30	15%	5 / 10	CEM4 CG4 CG8 CG9 CEM3 CG7 CG12 CG13 CG17 CGI20
17	Descrption of the Project Report	Group work	No Presential	00:00	50%	5 / 10	CEM4 CG4 CG8 CG9 CEM3 CG7 CG12 CG13 CG14 CG17 CGI20

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| 17 | Active Participation of Students | Other assessment | No Presential | 00:00 | 10% | 0 / 10 | CG8 CG13 CG14 CGI20 |

6.1.3. Referred (re-sit) examination

No se ha definido la evaluación extraordinaria.

6.2. Assessment criteria

The final grade of students will be calculated according to their performance in the two reports to be done and their class participation.

- Active participation of students (10%)

- Content of two reports (20%, 50% each)

- Presentation of the two reports (5%, 15% each)

  Students must get a minimum of 5 points in the assessment of each of the two reports in order to pass the matter.

  Students must get a minimum of 5 points (over 10) as final grade in order to pass the matter.

7. Teaching resources

7.1. Teaching resources for the subject

Name	Type	Notes
Bibliography Agile	Bibliography	A. Cockburn. Agile Software Development, Addison Wesley, 2002
Bibliography Scrum	Web resource	http://scrumtraininginstitute.com/library

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Process Agility and Software Usability	Web resource	http://citeseer.ist.psu.edu/465732.html
Agile Ecosystems	Bibliography	J. Higsmith. Agile Software Development Ecosystems. Addison-Wesley, 2005

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