



Universitat de Lleida

DEGREE CURRICULUM
MODELS DE PROCÉS

Academic year 2013-14

Subject's general information

Subject name	MODELS DE PROCÉS
Code	102054
Semester	2nd semester
Typology	Compulsory
ECTS credits	6
Theoretical credits	2
Practical credits	4
Department	Informàtica i Enginyeria Industrial
Important information on data processing	Consult this link for more information.
Language	English

JOSEP MARIA RIBO BALUST

Learning objectives

See competences

Competences

University of Lleida strategic competences

- Master Information and Communication Technologies.
 - Uses version control tools
- Master a foreign language.
 - Reads and writes technical documentation in english

Degree-specific competences

- Ability to design the appropriate solutions in one or more application domains through software engineering methods which include ethical, social, legal and economical aspects.
 - Takes part in a process of software development in community with the appropriate tools.
 - Applies design patterns
 - Applies the iterative software process models
 - Design programs using a Test-driven methodology
- Ability to develop, maintain and evaluate software services and systems which satisfy all the user's requirements and perform in a reliable and efficient way, are cost effective to develop and maintain, and comply with quality regulations specified in the theories, principles, methods and practices of Software Engineering.
 - Applies the iterative software development models
 - Designs programs using a test-driven methodology
- Ability to identify and analyse problems and design, develop, deploy, verify and document software solutions upon the basis of an appropriate knowledge of theories, models and current techniques.
 - Designs programs using a test-driven methodology
 - Applies design patterns
 - Applies iterative software development models
 - Takes part in collaborative software development using the appropriate tools.

Degree-transversal competences

- Ability to understand the user's needs expressed in a non-technical language.

Subject contents

Part I: Agile Software Development Models

1. Software development models and agile models

1.1 General features of each software development model.

1.2 General features of an agile model: Extreme Programming

2. JUnit review

3. Test Driven Development (TDD) .

3.1 General ideas of TDD and initial example : text patterns (pattern) .

3.2 TDD patterns and refactoring patterns .

3.3 TDD Activity: The calendar

3.4 TDD activity: The spreadsheet.

3.5 Mock objects. JMock . Examples.

3.6 Mock object patterns.

3.7 Mock object activity: the money change machine (Change) .

3.8 Mock objects and Data Access.

4 . Integration tests and continuous integration .

5 . A complete example : Fofo .

Part II (project) : Development of a collaborative software project .

Students will develop a project collaboratively , following an agile methodology and technique and TDD .

To support this development the following contents will be presented :

6 . Java Persistence API (JPA)

7. Architecture of a GUI application : Swing .

Part I will be held during the first part of the course.

Part II is practical and will run during the second part of the course. During this part, regular lectures will be replaced by meetings to assess project progress.

Methodology

Vegeu Pla de desenvolupament.

Development plan

- Setmanes 1 a 7: Fonaments sobre Metodologies àgils i TDD.
 - 2 hores /setmana: classe magistral
 - 2 hores/setmana: Laboratori (problemes de programació desenvolupats pels estudiants usant TDD)
- Setmanes 8 a 14: Desenvolupament d'un projecte de software amb metodologia àgil.
 - 2 hores: Reunió de planificació del treball setmanal al projecte
 - 2 hores: Treball de desenvolupament del projecte.

Evaluation

- Participació i resolució d'activitats plantejades durant les setmanes 1 a 7: 30% de la nota final
- Examen parcial: 30% de la nota final (cal treure almenys un 4 d'aquesta part per poder aprovar l'assignatura)
- Projecte de desenvolupament de software (setmanes 8 a 14): 40% de la nota final (cal treure almenys un 4

d'aquesta part per aprovar l'assignatura)

A la setmana de recuperacions es podrà recuperar l'examen parcial i les activitats plantejades a les primeres setmanes del curs (en aquest darrer cas, amb una valoració inferior).

Bibliography

Koskela, L.: Test Driven Practical TDD and Acceptance TDD for Java Developers. Manning, 2007. ISBN: 1-932394-85-0

Beck, K.: Extreme Programming explained. Second edition. Addison Wesley, 2005. ISBN: 0-321-27865-8.

Beck, K.: Test Driven Development: By Example. Addison Wesley, 2002. ISBN: 0-321-14653-0.

Massol, V.: JUnit in Action. Second edition. Manning, 2003. ISBN: 1930110995.