Universitat de Lleida

DEGREE CURRICULUM
SYSTEMS INTEGRATION

Coordination: PIÑOL ESTEBAN, XAVIER

Academic year 2020-21

Subject's general information

Subject name	SYSTEMS INTEGRATION
Code	102057
Semester	2nd Q(SEMESTER) CONTINUED EVALUATION

Typology	Degree	Course	Character	Modality
	Bachelor's Degree in Computer Engineering	4	COMPULSORY	Attendance-based

Course number of credits (ECTS)	9

Type of activity, credits, and groups	Activity type	PRALAB	TEORIA
	Number of credits	3.6	5.4
	Number of groups	1	1

Coordination	PIÑOL ESTEBAN, XAVIER
Department	COMPUTER SCIENCE AND INDUSTRIAL ENGINEERING
Teaching load distribution between lectures and independent student work	40% lectures; 60% student work
Important information on data processing	Consult this link for more information.
Language	Catalan
Distribution of credits	Ferran Perdrix (3) Xavier Piñol (6)

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
PERDRIX SAPIÑA, FERNANDO	ferran.perdrix@udl.cat	3	
PIÑOL ESTEBAN, XAVIER	xavier.pinol@udl.cat	6	

Subject's extra information

Knowledge of Java, Data Bases and Web Applications is assumed to properly follow the subject.

Learning objectives

- To konw the motives for the necessity of systems integration
- To indentify the main involved elements in an integration effort
- To apply current technologies to solve the integration needs
- To install and configure an application server
- To publish client and server applications for a web service on an application server.

Competences

Strategic competences of the UdL

- **CT1**: Mastering a foreign language, especially English.
- **CT2**: Training Experience in the use of the new technologies and the information and communication technologies.

Cross-disciplinary competences

- **EPS11**: Capacity to understand the needs of the user expressed in a no technical language.

Specific competences

- **GII-IS3:** Capacity to give solution to problems of integration taking into account the strategies, standards and available technologies.
- **GII-IS5**: Capacity to identify, evaluate and manage the potential risks that can arise.

Subject contents

Xavier Pinyol's Theory:

1. Java EE

    1.1 Definition

    1.2 Versions

    1.3 Specifications

    1.4 Application Server

Used software:

- PostgreSQL
- JBoss Developer Studio
- Pentaho ETL

Methodology

Theory sessions:

- The basic concepts of the subject are presented, always working on concrete exampless concretos.

Laboratory sessions:

- Tools to use in the project are presented
- The project is developed and students solve the difficulties they find.

Autonomous work:

- f<or completing the tools and technologies learning and finish project development.

Development plan

Week	Theory by Xavier Pinyol	Theory by Ferran Pèrdrix	LAboratory
1	Java EE Introduction Bussiness aplications	Legacy Systems	
2		Open Data / Big Data	Installation of tools
3	Servlets & JSPs	Pentaho Envoronment	Servlets & JSPs
4	JDBC		Pentaho / DB
5	Web Services	Semantic Web	Data Source
6	Web Services	Semantic Web / SPARQL	
7			Web Services SPARQL
8	Q&A about project		Development of project
9	First midterm		
10			Development of project Delivery of Part 1
11			Presentation of Part 2 Development of project
12	ENI		Development of project
13	Application case: eAccessible		Development of project
14	Application case: Open Data at the Lleida's City Council		Development of project
15			Development of project Delivery of Part 2
16	Second midterm		
17	Second midterm		

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Week	Theory by Xavier Pinyol	Theory by Ferran Pèrdrix	LAboratory
18	Tutories		
19	Recoveries		

Evaluation

Acr.	Description	Weight	Minimum grade	Mandatory	Recoverable	Ind/Group
Pa1	First midterm	20%	5.0	YES	YES	Ind
Pa2	Second midterm	20%	5.0	YES	YES	Ind
Pr1	First deliverable	20%	5.0	YES	YES	2-4
Pr2	Second deliverable	30%	5.0	YES	YES	2-4
Ex	Exercises ETL/SPARQL	10%	NO	NO	NO	Ind

Final grade = 0,20 * Pa1 + 0,20 * Pa2 + 0,20 * Pr1 + 0,30 * Pr2 + 0,10 * Ex

- Subject is passed when final grade is greater or equal thant 5,0 and all parts are greater that the minimum grade.

Bibliography

- M. C. Feathers, Working effectively with Legacy Code, Prentice-Hall (2005).
- M. Fowler, Refactoring. Improving the Design of Existing Code, Addison-Wesley (1999)
- J. Kerievsky, Refactoring to Patterns, Addison-Wesley (2005)