DEGREE CURRICULUM

FUNDAMENTALS OF BUSINESS MANAGEMENT

Academic year 2015-16

Subject's general information

Subject name	FUNDAMENTALS OF BUSINESS MANAGEMENT
Code	101300
Semester	1r Q Avaluació Continuada
Typology	Troncal
ECTS credits	6
Theoretical credits	0
Practical credits	0
Office and hour of attention	Natàlia Daries Ramon Wednesday and Thursday: 12:00 a 14:00 hours. Josep M. Barrufet Olivart Tuesday: 19.00 a 20.30 hours. Blanca Escardibul Ferra Monday and Friday: 13.30 a 16 hours. Without translation-També dies i hores a convenir.
Department	Administració d'Empreses i Gestió Econòmica dels Recursos Naturals
Modality	Presencial
Language	Spanish/Catalan
Degree	Degree in Business Administration and Management
Distribution of credits	Natàlia Daries Ramon 9.6 Josep M. Barrufet Olivart 3.6 Blanca Escardibul Ferra 4.2
E-mail addresses	ndaries@aegern.udl.cat jbarrufet@aegern.udl.cat efblanca@aegern.udl.cat

Teaching staff

Natàlia Daries Ramon Josep M. Barrufet Olivart Blanca Escardibul Ferra

Subject's extra information

Suggestions

a) Regardless of the established tutorial times, you can always send an e-mail to arrange a meeting on a particular day or at a particular time.

b) A good way of focusing the study of this subject is as follows:

- Follow the lecturer's explanations and organise your own notes. You are recommended to read your notes every week and to summarise them in order to emphasise the fundamental concepts to be understood and retained. You then need to comprehensively read the publications we will give you.

- When you finish studying a topic, you are recommended to do the corresponding exercices set. Some exercises will be done by the lecturer, but you will need to work on and solve others yourselves in order to assimilate the concepts explained in class.

- Relate the theoretical content learned to the real world. To achieve this, you are recommended to do the suggested activities. In all cases, it is advisable to consult the bibliography in order to become used to tackling problem-solving individually, as well as doing research by browsing the Internet, although you will always have the lecturer to guide you with any query, consultations or clarification.

In summary:

- Lectures and practical assignments - Exercises done and set for students to do

- Activities carried out by students in class on the topic being dealt with at a particular time

c) Most activities and the written tests will be done and handed in class. It is therefore very important to attend classes.

d) You need to go into the Sakai UdL virtual space for this subject every week. In this space you will find: lists of exercices, answers, notifications from the lecturer, notes, etc.

The course as part of the academic plan

Focus of the subject This subject comes in the first year of the degree course in business administration and management. This makes it an introductory subject intended to give students on overall view of businesses, both internally and externally, and concerning their environment. This subject not only teaches theoretical knowledge, it is also practical, as business management training requires the student to have skills and knowledge and applying it in solving business problems are equally important. In this sense, the practical classes are a basic element in learning these skills and this knowledge, as they are the necessary bridge between theory and practise. Relationship with other subjects in the curriculum This subject is constructed based on the knowledge obtained in the other subjects in the degree course, particularly financial accounting, marketing management and financial management. Projection in professional fields The subjects studied in this degree are aimed at the management and administration of organisations and businesses. Professional opportunities are very varied, as the workload consists of science subjects, such as mathematics, statistics and information technology and social science subjects, such as law, economics etc., as well as specific businesses subjects like accounting, marketing and finance. This means professional opportunities may be focused on: a) Business b) National and local administration c) Teaching d) Liberal professions

Learning objectives

See competences

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.

Goals

- The objectives of the subject are: 1.To study the economic reality of the organisations defined as businesses and try to explain their activities and functions scientifically, both from the perspective of their internal structure and of the attitudes of the elements making them up and from the point of view of their relationships with their environment or with the economic and social agents it consists of. 2.To analyse the role of general management, whose activities include coordinating the task of all the functional areas so that the company can achieve its objectives. At the same time, the functional disciplines require knowledge of administration and management, as well as of the organisation they make up. 3.To put into practice business decision-making techniques, placing particular emphasis on strategy formulation. 4.To achieve in-depth business management knowledge in order to take pragmatic perspective for analysing and solving the main functional problems that can arise in business management.

- Master Information and Communication Technologies.

Goals

- The objectives of the subject are: 1.To study the economic reality of the organisations defined as businesses and try to explain their activities and functions scientifically, both from the perspective of their internal structure and of the attitudes of the elements making them up and from the point of view of their relationships with their environment or with the economic and social agents it consists of. 2.To analyse the role of general management, whose activities include coordinating the task of all the functional areas so that the company can achieve its objectives. At the same time, the functional disciplines require knowledge of administration and management, as well as of the organisation they make up. 3.To put into practice business decision-making techniques, placing particular emphasis on strategy formulation. 4.To achieve in-depth business management knowledge in order to take pragmatic perspective for analysing and solving the main functional problems that can arise in business management.

Degree-specific competences

- Apply instrumental techniques to the analysis and solution of business problems and to the taking of decisions.

Goals

- The objectives of the subject are: 1.To study the economic reality of the organisations defined as businesses and try to explain their activities and functions scientifically, both from the perspective of their internal structure and of the attitudes of the elements making them up and from the point of view of their relationships with their environment or with the economic and social agents it consists of. 2.To analyse the role of general management, whose activities include coordinating the task of all the functional areas so that the company can achieve its objectives. At the same time, the functional disciplines require knowledge of administration and management, as well as of the organisation they make up. 3.To put into practice business decision-making techniques, placing particular emphasis on strategy formulation. 4.To achieve in-depth business management knowledge in order to take pragmatic perspective for analysing and solving the main functional problems that can arise in business management.

Degree-transversal competences

- Ability to criticise and be self-critical.

Goals

- The objectives of the subject are: 1.To study the economic reality of the organisations defined as businesses and try to explain their activities and functions scientifically, both from the perspective of their internal structure and of the attitudes of the elements making them up and from the point of view of their relationships with their environment or with the economic and social agents it consists of. 2.To analyse the role of general management, whose activities include coordinating the task of all the functional areas so that the company can achieve its objectives. At the same time, the functional disciplines require knowledge of administration and management, as well as of the organisation they make up. 3.To put into practice business decision-making techniques, placing particular emphasis on strategy formulation. 4.To achieve in-depth business management knowledge in order to take pragmatic perspective for analysing and solving the main functional problems that can arise in business management.

- Teamwork and leadership.

Goals

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- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.

Goals

- The objectives of the subject are: 1.To study the economic reality of the organisations defined as businesses and try to explain their activities and functions scientifically, both from the perspective of their internal structure and of the attitudes of the elements making them up and from the point of view of their relationships with their environment or with the economic and social agents it consists of. 2.To analyse the role of general management, whose activities include coordinating the task of all the functional areas so that the company can achieve its objectives. At the same time, the functional disciplines require knowledge of administration and management, as well as of the organisation they make up. 3.To put into practice business decision-making techniques, placing particular emphasis on strategy formulation. 4.To achieve in-depth business management knowledge in order to take pragmatic perspective for analysing and solving the main functional problems that can arise in business management.

- Ability to analyse and synthesise.

Goals

- The objectives of the subject are: 1.To study the economic reality of the organisations defined as businesses and try to explain their activities and functions scientifically, both from the perspective of their internal structure and of the attitudes of the elements making them up and from the point of view of their relationships with their environment or with the economic and social agents it consists of. 2.To analyse the role of general management, whose activities include coordinating the task of all the functional areas so that the company can achieve its objectives. At the same time, the functional disciplines require knowledge of administration and management, as well as of the organisation they make up. 3.To put into practice business decision-making techniques, placing particular emphasis on strategy formulation. 4.To achieve in-depth business management knowledge in order to take pragmatic perspective for analysing and solving the main functional problems that can arise in business management.

Subject contents

Subject contents

The programme for this subject is broken down into three parts. Each part is linked to the next one to make a complete programme.

In the first part (basics of Business Economics) , you will find the basic concepts of this subject, such as “the business” and “the entrepreneur” and we will analyse the management function.

In the second part (businesses and their economic environment) , you will see that the businesses studied in the first part are not isolated, and in fact depend on the environment. You will therefore have to analyse everything outside a business that affects it and detect the threats and the opportunities deriving from this environment, as well as the business’s strengths and weaknesses. A business is therefore not something that is isolated; instead it forms part of an environment. We will also apply techniques for studying this environment and to measure the business’s level of competitiveness. We will conclude this second part by analysing the strategies businesses use to achieve their objectives so that they can deal with the threats and are in aposition to make the most of their opportunities.

In the third and last part (business structure and the management system) we will look at the organisational and ownership structures of businesses. This will allow the business to choose its optimum size and decide whether it wants to/can grow and how much. We will conclude this third part by applying criteria that help us with decision-making.

PART ONE (BLOCK 1): THE BASICS OF BUSINESS ECONOMICS

1. THE BUSINESS AS A SOCIOECONOMIC REALITY

1.1. THE BUSINESS AS A REALITY: CONCEPTUAL INTRODUCTION

1.2. THE CAPITALIST BUSINESS AS A BODY IN THE ECONOMIC SYSTEM

1.3. THE FUNCTION OF THE BUSINESS AS AN ECONOMIC AGENT

1.4. THE ELEMENTS OF A BUSINESS

1.5. THE MODERN BUSINESS: A COMPLEX SYSTEM

2. CONCEPT OF A BUSINESS

2.1. CONCEPTUAL DIMENSIONS OF A BUSINESS

2.2. THE BUSINESS AS A SYSTEM: ANALYSIS OF BUSINESS SYSTEMS

2.3. CONCEPT OF A BUSINESS AS AN ORGANISATION: BASIC PRINCIPLES

Activity to be carried out by students:

You need to summarise this topic individually. You do not need to hand it in to the lecturer. Questions may be asked about this topic on examination day, so you need to study it.

3. ENTREPRENEURS: ANALYSIS OF THE MANAGEMENT FUNCTION

3.1. DEVELOPMENT OF THE CONCEPT OF THE ENTREPRENEUR: CLASSICAL CONCEPT AND THE ROLE OF ENTREPRENEURS IN THE MODERN ECONOMY

3.2. ANALYSIS OF THE MANAGEMENT FUNCTION: INNOVATION, LEADERSHIP AND STRATEGIC ATTITUDE

PART TWO (BLOCK 2): THE BUSINESS AND ITS ECONOMIC ENVIRONMENT

4. THE BUSINESS AND ITS ENVIRONMENT

4.1. CONCEPT AND NATURE OF THE ENVIRONMENT

4.2. ENVIRONMENTAL FACTORS AND THEIR INFLUENCE ON BUSINESSES

4.3. THE BUSINESS'S RESPONSE: STRATEGIC MANAGEMENT

4.4. CORPORATE SOCIAL RESPONSIBILITY

Topic 4 exercise book:

Exercises in applying SWOT.

5. BUSINESS COMPETITIVENESS

5.1. CONCEPT OF COMPETITIVENESS

5.2. ANALYSING BUSINESS COMPETITIVENESS

5.3. MEASURING BUSINESS COMPETITIVENESS

Topic 5 exercise book:

Efficiency measurement exercises.

6. CONCEPT OF STRATEGY AND THE STRATEGY FORMULATION PROCESS

6.1. THE CONCEPT AND ELEMENTS OF BUSINESS STRATEGY

6.2. LEVELS OF STRATEGY

6.3. TYPES OF STRATEGY

PART THREE (BLOCK 3): BUSINESS STRUCTURE AND MANAGEMENT SYSTEM

7. ORGANISATIONAL STRUCTURE

7.1. CONCEPT AND ELEMENTS OF ORGANISATIONAL STRUCTURE

7.2. THE PRINCIPLES STRUCTURING BUSINESS ORGANISATION

7.3. INTRODUCTION TO ORGANISATIONAL FORMS

Activity to be carried out by students:

You need to summarise this topic individually. You must hand it in to the lecturer before the established deadline. Summaries presented late will not be accepted. Questions may be asked about this topic on examination day, so you need to study it.

8. BUSINESS OWNERSHIP STRUCTURE

8.1. SEPARATION OF OWNERSHIP AND CONTROL

8.2. CONCEPT OF OWNERSHIP STRUCTURE: OWNERSHIP GROUPS

8.3. PRINCIPAL TYPES OF BUSINESS CONTROL

9. BUSINESS SIZE, CONCENTRATION AND GROWTH

9.1. THEIMPORTANCE OF BUSINESS SIZE: EXPLANATORY FACTORS

9.2. MEASURINGBUSINESS SIZE AND OPTIMUM DIMENSIONS

9.3. CONCEPTAND MEASUREMENT OF BUSINESS CONCENTRATION

9.4. CONCEPT,FORMS AND MEANS OF BUSINESS GROWTH.

Topic 9 exercise book:

Equilibrium exercises.

10. THE BUSINESS MANAGEMENT SYSTEM

10.1. CONCEPT AND STRUCTURE OF THE MANAGEMENT SYSTEM

10.2. THE BUSINESS'S MISSION, OBJECTIVES AND TARGETS

10.3. THE BUSINESS MANAGEMENT PROCESS

10.4. MANAGEMENTEFFICIENCY AND MANAGEMENT BY OBJECTIVES

10.5. INTRODUCTION TO BUSINESS DECISIONS: BASIC DECISION-MAKING CRITERIA IN SITUATIONS OF UNCERTAINTY AND COMPETITION

Topic 10 exercise book:

Exercises in applying decision-making criteria.

Bibliography

AGUIRRE DE MENA, J.M.; ANDRÉS REINA, M. P.; RODRÍGUEZ RODRÍGUEZ, J. Y TOUS ZAMORA, D. (2000): *Dirección y gestión de personal*. Ed. Pirámide.

BUENO CAMPOS, E. (2004): *Curso básico de economía de la empresa: un enfoque de organización*.Madrid. Ediciones Pirámide. Cuarta edición.

CASTILLO CLAVERO, A. M., [DIR] (2003). *Introduccióna la economía y administración de empresas*. Editorial Pirámide, Madrid.

CLAVER CORTES, E.; LLOPIS TAVERNER, J.; LLORET LLINARES, M.; MOLINA MANCHÓN, H. (1998)4ª edición: *Manual de administración de empresas*. Madrid.Editorial Civitas.

GINER DE LA FUENTE, FERNANDO; GILESTALLO, Mª DE LOS ÁNGELES (2007) 7ªedición. *Cómo Crear y hacer Funcionar Una Empresa.* (ESIC Editorial).

PÉREZ GOROSTEGUI, E. (2002). *Introducción a la economía de la empresa. Editorial Centro de Estudios Ramón Areces, Madrid.*

DEGREE CURRICULUM

FUNDAMENTALS OF ACCOUNTING

Academic year 2015-16

Subject's general information

Subject name	FUNDAMENTALS OF ACCOUNTING
Code	101301
Semester	1r Q Avaluació Continuada
Typology	Troncal
ECTS credits	6
Theoretical credits	0
Practical credits	0
Department	Administració d'Empreses i Gestió Econòmica dels Recursos Naturals
Modality	Presencial
Language	Catalan
Degree	Degree in Business Administration and Management
Distribution of credits	Begoña Arias Terés 7,8 Yolanda Montegut Salla 3 Jordi Moreno Gené 8.4
E-mail addresses	barias@aegern.udl.cat ymontegut@aegern.udl.cat jmoreno@aegern.udl.cat

Teaching staff

Begoña Arias Terés Yolanda Montegut Salla Jordi Moreno Gené

Subject's extra information

The course as part of the academic plan

The Basics of Accounting course is taught in the first year of the BAM degree course. It involves introducing students to the General Accounting applied in businesses so that, in subsequent years, it is possible to go into greater depth on accounting standards and evaluation criteria. This subject is important in the sense that, once they have completed their degrees, students need to have basic knowlege of accounting in order to work for businesses carrying out accounting and management tasks. It is essential to get the most from this course in order to understand other subjects directly related to the degree course which are taught in subsequent years.

Learning objectives

Without translation-

- Saber comptabilitzar les operacions bàsiques d'una empresa: compres, vendes, nòmines, ingressos i despeses generals, i d'altres operacions que faci l'empresa.
- Saber elaborar els comptes anuals de l'empresa amb la informació introduïda: balanç i compte de resultats.
- Ser capaç d'elaborar un cicle comptable complet.
- Ser capaç d'elaborar un cicle comptable complet.
- Saber elaborar els comptes anuals de l'empresa amb la informació introduïda: balanç i compte de resultats.
- Saber buscar i utilitzar documents de caràcter comptable que les empreses poden necessitar per dur a terme el dia a dia de la comptabilitat: Pla General de Comptabilitat, Pla de Comptabilitat per a Pimes, adaptacions sectorials.
- Saber comptabilitzar les operacions bàsiques d'una empresa: compres, vendes, nòmines, ingressos i despeses generals, i d'altres operacions que faci l'empresa.
- Saber buscar i utilitzar documents de caràcter comptable que les empreses poden necessitar per dur a terme el dia a dia de la comptabilitat: Pla General de Comptabilitat, Pla de Comptabilitat per a Pimes, adaptacions sectorials.
- Treball en equip i lideratge.
- Saber comptabilitzar les operacions bàsiques d'una empresa: compres, vendes, nòmines, ingressos i despeses generals, i d'altres operacions que faci l'empresa.
- Saber buscar i utilitzar documents de caràcter comptable que les empreses poden necessitar per dur a terme el dia a dia de la comptabilitat: Pla General de Comptabilitat, Pla de Comptabilitat per a Pimes, adaptacions sectorials.
- Ser capaç de treballar i d'aprendre de forma autònoma i simultàniament interactuar adequadament amb els altres, cooperant i col•laborant
- Saber buscar i utilitzar documents de caràcter comptable que les empreses poden necessitar per dur a terme el dia a dia de la comptabilitat: Pla General de Comptabilitat, Pla de Comptabilitat per a Pimes, adaptacions sectorials.
- Ser capaç d'elaborar un cicle comptable complet.

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.

Goals

- To know how to account for more complex business operations: purchasing, sales, payroll, income and general expenditure and other business operations.

Degree-specific competences

- Apply instrumental techniques to the analysis and solution of business problems and to the taking of decisions.

Goals

- To know how to draw up a company's annual accounts with the information entered: balance sheet and profit and loss account.
- To be capable of drawing up a full accounting cycle.

- Elaborate, interpret and audit the economical-financial information of entities and individuals, and provide them with assessment.

Goals

- To be capable of drawing up a full accounting cycle.
- To know how to draw up a company's annual accounts with the information entered: balance sheet and profit and loss account.

Degree-transversal competences

- Ability to criticise and be self-critical.

Goals

- To know how to find and use the accounting documents businesses may need to carry out everyday accounting: General Accounting Plan, Accounting Plan for SMEs, sectorial adaptations.

- Ability to organise and plan.

Goals

- To know how to find and use the accounting documents businesses may need to carry out everyday accounting: General Accounting Plan, Accounting Plan for SMEs, sectorial adaptations.
- Without Translate - Ser capaç de treballar i d'aprendre de forma autònoma i simultàniament interactuar adequadament amb els altres, cooperant i col•laborant

- Teamwork and leadership.
- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.

Goals

- To know how to find and use the accounting documents businesses may need to carry out everyday accounting: General Accounting Plan, Accounting Plan for SMEs, sectorial adaptations.
- To know how to account for more complex business operations: purchasing, sales, payroll, income and general expenditure and other business operations.

- Ability to analyse and synthesise.

Goals

- To know how to find and use the accounting documents businesses may need to carry out everyday accounting: General Accounting Plan, Accounting Plan for SMEs, sectorial adaptations.
- To be capable of drawing up a full accounting cycle.

- Act in accordance with rigour, personal compromise and in a quality orientated way.

Goals

- To know how to account for more complex business operations: purchasing, sales, payroll, income and general expenditure and other business operation

Subject contents

Subject contents

TOPIC 1: ACCOUNTING AS AN INFORMATION SYSTEM

-Definition of accounting
- Users of accounting information
-Division of accounting

TOPIC 2: THE BALANCE SHEET

-The business's assets
- Economic structureor assets
- Financial structure or liabilities
- Net assets
-The balance sheet
- Types of balance sheet

TOPIC 3: THE ACCOUNTING METHOD

-Accounting concept of accounts
- Graphic and terminological representation of accounts
- Types of accounts
- Theories about debiting and crediting accounts
- Book-keeping entries

TOPIC 4: LEGAL REGULATIONS AND ACCOUNTING STANDARDS.

THE GENERAL ACCOUNTING PLAN

-Books
- Business accounting and record obligations
- Accounting standards
- The General Accounting Plan

TOPIC 5: THE ACCOUNTING CYCLE

-Stages of the accounting cycle
- Initial balance sheet
-Opening book-keeping entry
- Ledgers
- Current operations
-Determining the result
- Drawing up the final balance sheet

TOPIC 6: STOCKS

-Main group 3 accounts
- Purchasing and sales
- Valuing stocks
-Changes in stocks at the end of the financial year
- Packing andpackaging operations
- Deterioration in value

TOPIC 7: CREDITORS AND DEBTORS IN COMMERCIAL OPERATIONS

-Operating debts: suppliers and creditors

-Operating credit: customers and debtors

-Commercial notes

-Debts and credit with staff

-Deterioration in value

Methodology

Without translation-

En el grup gran de l'assignatura es duran a terme classes teòriques per tenir un coneixement dels continguts i aquests es complementaran amb sessions pràctiques relacionades amb el temari.

Els grups mitjans seran essencialment pràctics per a que l'alumne pugui posar en pràctica els coneixements adquirits en el grup gran.

Development plan

Without translation-

PROGRAMACIÓ DE L'ASSIGNATURA:

Dates (Setmanes)	Descripció:	Activitat Presencial	Activitat treball autònom
1	Presentació assignatura Tema 1 Tema 2	Pautes a seguir Lliçó magistral Lliçó magistral	Teoria

2	Tema 2 Tema 3	Lliçó magistral i problemes	Exercicis i problemes
3	Tema 3	Problemes	Exercicis i problemes
4	Tema 4	Lliçó magistral i problemes	Exercicis i problemes
5	Prova teòrico-pràctica 1 Tema 5	Prova Lliçó magistral i problemes	Resolució prova Exercicis i problemes
6	Tema 5	Lliçó magistral i problemes	Exercicis i problemes
7	Tema 5	Lliçó magistral i problemes	Exercicis i problemes
8	Tema 5	Lliçó magistral i problemes	Exercicis i problemes
9	Prova pràctica 1	Prova	Resolució prova
10	Tema 6	Lliçó magistral i problemes	Exercicis i problemes
11	Tema 6	Lliçó magistral i problemes	Exercicis i problemes
12	Tema 6	Lliçó magistral i problemes	Exercicis i problemes
13	Prova teòrico-pràctica 2 Tema 7	Prova Lliçó magistral i problemes	Resolució prova Exercicis i problemes
14	Resolució exercicis	Exercicis	Resolució exercici
15	Tema 7	Lliçó magistral i problemes	Exercicis i problemes
16	Tema 7	Lliçó magistral i problemes	Exercicis i problemes
17	Resolució exercicis	Exercicis	Resolució exercici
18	Tema 7	Lliçó magistral i problemes	Exercicis i problemes
19	Prova pràctica 2	Prova	Resolució prova
20			

Evaluation

Without translation-

AVALUACIÓ CONTINUADA:

La nota final es la suma de les qualificacions obtingudes en les proves següents:

- Exercicis que l'alumne resoldrà a classe i que si es fan correctament en total valdran un **15%** de la nota

Dos proves d'avaluació fetes al llarg de la matèria:

- La primera que constarà de dues parts, una teòrica i una pràctica que valdrà en total un **25%**
- Un exercici pràctic acumulatiu que val un **60%** de la nota i que es farà al final del crèdit.

Donada la naturalesa acumulativa de la materia, en aquest últim examen la nota mínima que s'ha treure és de 5 per que es tinguin en compte la resta de proves de l'avaluació continuada. En cas contrari l'assignatura queda suspesa.

Entenent que les proves són acumulatives i per tant poden sortir qüestions de proves anteriors

A la prova tipus test s'ha de tenir en compte que les respostes incorrectes resten un 25% de la nota correcta.

AVALUACIÓ ALTERNATIVA:

En cas que una/a estudiant acrediti documentalment (contracte de treball i resum de la vida laboral expedit per la Tresoreria de la Seguretat Social) que està treballant amb jornada laboral completa durant el curs docent i per tant no pot complir amb els requisits establerts per a l'avaluació continuada, podrà optar per la realització d'una prova única de validació de competències i coneixements que es realitzarà en les setmanes assenyalades a aquests efectes en el calendari d'avaluació del grau.

El termini per presentar la documentació finalitza el 30 d'octubre de 2015.

Bibliography

- CONTABILIDAD GENERAL 11ª Edición actualizada; Jesús Omeñaca García ; Editorial Deusto
- SUPUESTOS PRACTICOS DE CONTABILIDAD FINANCIERA Y DE SOCIEDADES; Jesús Omeñaca García ; Editorial Deusto
- PLAN GENERAL DE CONTABILIDAD; Editorial Mc Graw Hill

DEGREE CURRICULUM

ECONOMIC HISTORY

Academic year 2015-16

Subject's general information

Subject name	ECONOMIC HISTORY
Code	101302
Semester	1r Q Avaluació Continuada
Typology	Troncal
ECTS credits	6
Theoretical credits	0
Practical credits	0
Office and hour of attention	Enric Vicedo Rius: Monday and Tuesday 11,15 a 12.15 Office 2.14.1 Rectorat
Department	HISTÒRIA
Modality	Presencial
Language	Català
Degree	Degree in Business Administration and Management
Distribution of credits	Manuel López Esteve 9.6 Enric Vicedo Rius 7.8
E-mail addresses	manel.lopez@hahs.udl.cat vicedo@historia.udl.cat

Teaching staff

Manuel López Esteve Enric Vicedo Rius

Subject's extra information

Suggestions

Attendance at classes, following the programme and doing the reading and practical assignments.

The course as part of the academic plan

Analysis of the economic situation from a historical perspective. Origins of the capitalist economy. Industrialisation processes. The great stages of contemporany economic growth. Development, underdevelopment and globalisation.

Learning objectives

See competences

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.

Goals

  - Ability to structure a written and oral presentation in various possible formats.

- Master Information and Communication Technologies.

Goals

  - Use of Excel for basic calculations and graphs.

- Respect of the essential rights of equality between men and women, the promotion of Human Rights and of the values of a peace culture and democracy.
- Master a foreign language.

Goals

  - Some short texts in English will be given out during the course.

Degree-specific competences

- Identify and interpret the economical, environmental, political, sociological and technological factors in local, national and international ambits, and their repercusion upon organizations.

Goals

  - Capacity to understand the complexity of the relationships between economic and non-economic (social, institutional...) aspects.
  - Knowledge of contemporany historical processes and the main demographic, socio-economic, political and cultural factors that condition them.

- Capacity to interpret current economic transformations in relation to changes in social, political and institutional situations.
- Knowledge of European economic history in a comparative perspective.

Degree-transversal competences

- Ability to criticise and be self-critical.
- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.
- Ability to analyse and synthesise.

Goals

- Ability to make comments and notes and to edit texts and documents from current institutions correctly from a historical perspective.
- Ability to obtain the necessary content by consulting quality books or databases, both by economic historians and institutions related to economic and social life.

- Act in accordance with rigour, personal compromise and in a quality orientated way.

Subject contents

Part I - INTRODUCTION

0.Introduction to the subject

1.Economic History, history and social science.

2.Pre-industrial European economies: continuities and changes in the modern centuries.

Part II- THE INDUSTRIAL REVOLUTION

3.Industrialisation in Europe.

4.Industrialisation in the United States and Japan.

5.The integration of the international economy during the 19th century.

PART III - THE 20TH CENTURY

6.The economic impact of the First World War and reconstruction.

7.The crisis of the thirties: origin, development and responses.

8.Centrally planned socialist economies: Russia and China.

9.The Second World War: impact, reconstruction and new world order.

10.Expansion and crisis of the world economy in the second half of the 20th century: economic growth and underdevelopment.

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Resources

Economic History Services http://eh.net//

Spanish Economic History Association links http://www.aehe.net/links.html

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DEGREE CURRICULUM

ACCOUNTING PLANNING

Academic year 2015-16

Subject's general information

Subject name	ACCOUNTING PLANNING
Code	101305
Semester	2n Q Avaluació Continuada
Typology	Troncal
ECTS credits	6
Theoretical credits	0
Practical credits	0
Department	Administració d'Empreses i Gestió Econòmica dels Recursos Naturals
Modality	Presencial
Language	Catalan
Degree	Degree in Business Administration and Management
Distribution of credits	Begoña Arias Teres 3,6 Yolanda Montegut Salla 8,4 Jordi Moreno Gené 9,6 Laura Sánchez Pulido 3,6
E-mail addresses	barias@aegern.udl.cat ymontegut@aegern.udl.es jmoreno@aegern.udl.cat lsanchez@aegern.udl.cat

Teaching staff

Begoña Arias Teres Yolanda Montegut Salla Jordi Moreno Gené Laura Sánchez Pulido

Subject's extra information

The course as part of the academic plan

The Accounts Planning subject is taught in the first year of the BAM Degree. It is a matter of expanding the concepts acquired in the Basic Accounting subject so that, in subsequent years, it is possible to go into great depth on accounting standards and evaluation criteria. This subject is important in the sense that, once they have completed their degrees, students need to have basic knowledge of accounting in order to work for businesses carrying out accounting and management tasks. It is essential to get the most from this course in order to understand other subjects directly related to the degree course which are taught in subsequent years.

Learning objectives

Without translation

- Ser capaç d'interpretar informació comptable: analitzar la informació que genera l'empresa.
- Saber elaborar els comptes anuals de l'empresa amb la informació introduïda: balanç, compte de resultats, memòria, estat de canvis en el patrimoni net i estat de fluxos d'efectiu.
- Saber elaborar un cicle comptable complet.
- Saber elaborar els comptes anuals de l'empresa amb la informació introduïda: balanç, compte de resultats, memòria, estat de canvis en el patrimoni net i estat de fluxos d'efectiu.
- Saber elaborar un cicle comptable complet.
- Saber buscar i utilitzar documents de caràcter comptable que les empreses poden necessitar per dur a terme el dia a dia de la comptabilitat: Pla General de Comptabilitat, Pla de Comptabilitat per a Pimes, adaptacions sectorials.
- Saber comptabilitzar operacions més complexes d'una empresa: provisions, periodificacions, inversions, ingressos i despeses, i d'altres operacions que faci l'empresa.
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- Saber comptabilitzar operacions més complexes d'una empresa: provisions, periodificacions, inversions, ingressos i despeses, i d'altres operacions que faci l'empresa.
- Saber buscar i utilitzar documents de caràcter comptable que les empreses poden necessitar per dur a terme el dia a dia de la comptabilitat: Pla General de Comptabilitat, Pla de Comptabilitat per a Pimes, adaptacions sectorials.
- Saber buscar i utilitzar documents de caràcter comptable que les empreses poden necessitar per dur a terme el dia a dia de la comptabilitat: Pla General de Comptabilitat, Pla de Comptabilitat per a Pimes, adaptacions sectorials.

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.

Goals

  - To be capable of interpreting accounting information: analysing the information generated by the company.

Degree-specific competences

- Apply instrumental techniques to the analysis and solution of business problems and to the taking of decisions.

Goals

  - To know how to draw up a company's annual accounts with the information entered: balance sheet, profit and loss account, report, balance of changes in net assets and cash flow balance.
  - To know how to draw up a full accounting cycle.

- Elaborate, interpret and audit the economical-financial information of entities and individuals, and provide them with assessment.

Goals

  - To know how to draw up a company's annual accounts with the information entered: balance sheet, profit and loss account, report, balance of changes in net assets and cash flow balance.
  - To know how to draw up a full accounting cycle.

Degree-transversal competences

- Ability to criticise and be self-critical.

Goals

  - To know how to find and use the accounting documents businesses may need to carry out everyday accounting: General Accounting Plan, Accounting Plan for SMEs, sectorial adaptations.

- Ability to organise and plan.

Goals

  - To know how to find and use the accounting documents businesses may need to carry out everyday accounting: General Accounting Plan, Accounting Plan for SMEs, sectorial adaptations.

- Teamwork and leadership.

Goals

  - To know how to draw up a company's annual accounts with the information entered: balance sheet, profit and loss account, report, balance of changes in net assets and cash flow balance.
  - To know how to draw up a full accounting cycle.
  - To know how to find and use the accounting documents businesses may need to carry out everyday accounting: General Accounting Plan, Accounting Plan for SMEs, sectorial adaptations.

- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.

Goals

- To know how to find and use the accounting documents businesses may need to carry out everyday accounting: General Accounting Plan, Accounting Plan for SMEs, sectorial adaptations.
- To know how to account for more complex business operations: provisions, accrual, investment, income and expenditure and other business operations.

- Ability to analyse and synthesise.

Goals

- To know how to find and use the accounting documents businesses may need to carry out everyday accounting: General Accounting Plan, Accounting Plan for SMEs, sectorial adaptations.

- Act in accordance with rigour, personal compromise and in a quality orientated way.

Goals

- To know how to find and use the accounting documents businesses may need to carry out everyday accounting: General Accounting Plan, Accounting Plan for SMEs, sectorial adaptations.
- To know how to account for more complex business operations: provisions, accrual, investment, income and expenditure and other business operations.

Subject contents

TOPIC 1: NON-CURRENT ASSETS

-Intangible fixed assets

-Tangible fixed assets

-Property investments

-Depreciation of fixed assets

-Leasing

-Deterioration in value

TOPIC 2: NET ASSETS

-Capital contributions

-Reserves

-Distribution of results

TOPIC 3: FINANCIAL INSTRUMENTS

-Classification of financial instruments

-Types of financial assets

-Types of financial liabilities

-Deterioration in value

-Bonds and deposits

TOPIC 4: PROVISIONS AND ACCRUAL

-Differences between provisions and deterioration in value

-Group 1 provisions

-Accrual adjustments

TOPIC 5: THE ANNUAL ACCOUNTS

-Standards for drawing up the balance sheet and profit and loss account

-Normal and abbreviated balance and profit and loss account

-The report

-The balance sheet of changes in net assets

-The cash flow balance sheet

Methodology

Without translation

En el grup gran de l'assignatura es duran a terme classes teòriques per tenir un coneixement dels continguts i aquests es complementaran amb sessions pràctiques relacionades amb el temari.

Els grups mitjans seran essencialment pràctics per a que l'alumne pugui posar en pràctica els coneixements adquirits en el grup gran.

Development plan

Without translation

Dates (Setmanes)	Descripció:	Activitat Presencial	Activitat treball autònom
1	Presentació assignatura Exercici repàs	Pautes a seguir Exercici	Exercicis
2	Tema 1	Lliçó magistral i problemes	Exercicis i problemes
3	Tema 1	Lliçó magistral i problemes	Exercicis i problemes
4	Tema 1 Tema 2	Lliçó magistral i problemes	Exercicis i problemes
5	Tema 2	Lliçó magistral i problemes	Exercicis i problemes
6	Prova teòrico-pràctica 1 Tema 3	Prova Lliçó magistral	Resolució prova Exercicis i problemes
7	Tema 3	Lliçó magistral i problemes	Exercicis i problemes
8	Tema 3	Lliçó magistral i problemes	Exercicis i problemes
9	Prova pràctica 1	Prova	Resolució prova
10	Tema 4	Lliçó magistral i problemes	Exercicis i problemes
11	Tema 4	Lliçó magistral i problemes	Exercicis i problemes
12	Tema 4	Lliçó magistral i problemes	Exercicis i problemes
13	Resolució exercicis	Exercicis	Resolució exercici
14	Prova teòrico-pràctica 2 Tema 5	Prova Lliçó magistral i problemes	Resolució prova Exercicis i problemes
15	Tema 5	Lliçó magistral i problemes	Exercicis i problemes
16	Tema 5	Lliçó magistral i problemes	Exercicis i problemes
17	Resolució exercicis	Exercicis	Resolució exercici
18	Tema 5	Lliçó magistral i problemes	Exercicis i problemes
19	Prova pràctica 2	Prova	Resolució prova
20			

Evaluation

Without translation

AVALUACIÓ CONTINUADA:

La nota final es la suma de les qualificacions obtingudes en les proves següents:

- Exercicis que l'alumne resoldrà a classe i que si es fan correctament en total valdran un 15% de la nota

Dos proves d'avaluació fetes al llarg de la matèria:

- La primera que constarà de dues parts, una teòrica i una pràctica que valdrà en total un 15%
- Un exercici pràctic acumulatiu que val un 60% de la nota i que es farà al final del crèdit.

Donada la naturalesa acumulativa de la materia, en aquest últim examen la nota mínima que s'ha treure és de 5 per que es tinguin en compte la resta de proves de l'avaluació continuada. En cas contrari l'assignatura queda suspesa.

Entenent que les proves són acumulatives i per tant poder sortir qüestions de proves anteriors

A la prova tipus test s'ha de tenir en compte que les respostes incorrectes resten un 25% de la nota correcta.

AVALUACIÓ ALTERNATIVA:

En cas que una/a estudiant acrediti documentalment (contracte de treball i resum de la vida laboral expedit per la Tresoreria de la Seguretat Social) que està treballant amb jornada laboral completa durant el curs docent i per tant no pot complir amb els requisits establerts per a l'avaluació continuada, podrà optar per la realització d'una prova única de validació de competències i coneixements que es realitzarà en les setmanes assenyalades a aquests efectes en el calendari d'avaluació del grau.

El termini per presentar la documentació finalitza el 18 de març.

Bibliography

- CONTABILIDAD GENERAL 11a Edició actualitzada; Jesús Omeñaca García ; Editorial Deusto
- SUPUESTOS PRACTICOS DE CONTABILIDAD FINANCIERA Y DE SOCIEDADES; Jesús Omeñaca García ; Editorial Deusto
- PLAN GENERAL DE CONTABILIDAD; Editorial Mc Graw Hill

DEGREE CURRICULUM

COMERCIAL LAW

Academic year 2015-16

Subject's general information

Subject name	COMERCIAL LAW
Code	101306
ECTS credits	0
Theoretical credits	0
Practical credits	0
Modality	Presencial

Subject's extra information

DEGREE CURRICULUM

ECONOMY I

Academic year 2015-16

Subject's general information

Subject name	ECONOMY I
Code	101307
Semester	2n Q Avaluació Continuada
Typology	Troncal
ECTS credits	6
Groups	2GG al matí i 1 GG tarda; 4 GM al matí i 3 GM a la tarda
Theoretical credits	0
Practical credits	0
Office and hour of attention	Mariona Farré: office 0.13 Tuesday: 9:30-10:30 i de 13:00-14:30 Thursday: 13:00-14:30
Department	Economia Aplicada
Teaching load distribution between lectures and independent student work	40% presential; 60 presentials hours 60% no presential activity; 90 autonomy work
Modality	Presencial
Language	Català
Degree	Degree in Business Administration and Management
Distribution of credits	Mariona Farre Perdiguer 16.2
E-mail addresses	mariona.farre@econap.udl.cat

Teaching staff

Mariona Farre Perdiguer Pere Mir Artigues

Subject's extra information

The course as part of the academic plan

The Economics I subject attemps to introduce students to knowledge of the principal economic concepts, as well as the instruments and models used to understand how individual and businesess -that is, the so-called economic agents- make their decisions. Individuals' decisions relate to what and how much to buy. Consumer theory will show how an individual's demand function is deduced from their preferences and the budget restrictions they face. Business decisions relate to how much and what to produce. Production theory will explain how the supply a business provides is obtained. The subject is intended to provide an understanding of how a modern market economy works and how businesses and consumers relate to one another in markets.

Learning objectives

without translate

1.- Correcta expressió oral i escrita

Expressa correctament i sense faltes les activitats, exercicis i proves que realitza

Estructura correctament i coherentment les activitats i proves que realitza

Exposa de forma correcta i entenedora la resposta a una pregunta a tot el grup

2.- Domini de les TIC

Utilitza de forma correcta l'entorn SAKAI

Elabora els treballs i exercicis en format doc i pdf

Treballa correctament amb el full de càlcul la resolució d'exercicis

Busca i troba informació estadística i econòmica en les bases de dades (INE, IDESCAT, etc.)

3.- Capacitat d'anàlisi i síntesi

Identifica correctament les dades d'un problema

Justifica i raona les respostes que dona

Conclou de forma sintètica

4.- Capacitat de crítica i autocrítica

Expressa la seva opinió a partir de la lectura d'un article

5.- Ser capaç de treballar i d'aprendre de forma autònoma i simultàniament interactuar adequadament amb els demés, cooperant i col·laborant.

Busca informació en les bases de dades estadístiques i econòmiques

Representa la informació econòmica que ha trobat prèviament

Interpreta la informació econòmica que ha trobat prèviament

Contrasta la informació que busca en la xarxa, articles, llibres, etc.

Coopera amb la resta de companys del grup

Accepta les opinions i propostes de la resta del grup

6.- Actuar en base al rigor, al compromís personal i amb orientació a la qualitat

Presenta de forma acurada i clara les activitats i els exercicis que es demanen.

Mostra coherència amb les opinions que expressa

7.- Identificar i interpretar els factors econòmics, ambientals, polítics, sociològics i tecnològics en els àmbits local, nacional i internacional i la seva repercussió sobre les organitzacions.

Descriu que és l'economia

Descriu que és un sistema econòmic

Descriu què és una economia de mercat

Identifica els factors productius

Diferència entre els conceptes de microeconomia i macroeconomia.

Explica què s'entén per error del mercat.

Identifica els principis econòmics de l'elecció individual.

Distingeix els principis en els que es fonamenta la interacció entre les eleccions individuals.

Dibuixa gràficament la frontera de possibilitats de producció (FPP)

Interpreta els diferents punts de la FPP

Interpreta el concepte de cost d'oportunitat a partir a de la FPP

Relaciona el model de la FPP i el creixement econòmic

Descriu el flux circular de la renda

Interpreta un gràfic amb dues variables econòmiques

Interpreta la pendent d'una corba

Calcula la pendent d'una corba a partir del mètode de l'arc

Interpreta gra`fics que contenen informació numèrica (diagrames de series temporals, diagrames de pastís i diagrames de barres)

Descriu un mercat competitiu a partir d'un model d'oferta i demanda.

Explica que és una corba de demanda.

Representa gràficament una corba de demanda

Analitza els factors que donen lloc a desplaçaments en la corba de demanda.

Dibuixa gràficament els desplaçaments de la corba de demanda

Reconeix la diferència de moviments al llarg de la corba de demanda i desplaçaments de la corba de demanda

Explica que és una corba d'oferta

Representa gràficament una corba d'oferta

Analitza els factors que donen lloc a desplaçaments en la corba d'oferta.

Dibuixa gràficament els desplaçaments de la corba d'oferta

Reconeix la diferència de moviments al llarg de la corba d'oferta i desplaçaments de la corba d'oferta

Explica com les corbes d'oferta i demanda determinen un preu d'equilibri i una quantitat d'equilibri.

Calcula el preu i la quantitat d'equilibri en un mercat competitiu

Descriu que succeeix en el mercat en situacions d'excés o escassetat de demanda o oferta

Analitza gràficament els efectes dels desplaçaments de les corbes sobre l'equilibri del mercat.

Defineix l'elasticitat preu de la demanda.

Calcula l'elasticitat preu de la demanda.

Interpreta l'elasticitat preu de la demanda.

Identifica els factors que determinen l'elasticitat preu de la demanda.

Defineix l'elasticitat preu de l'oferta.

Calcula l'elasticitat preu de l'oferta.

Interpreta l'elasticitat preu de l'oferta.

Identifica els factors que determinen l'elasticitat preu de l'oferta.

Defineix l'elasticitat creuada de la demanda.

Calcula l'elasticitat creuada de la demanda.

Interpreta l'elasticitat creuada de la demanda.

Defineix l'elasticitat renda.

Calcula l'elasticitat renda.

Interpreta l'elasticitat renda.

Classifica un bé a partir del concepte d'elasticitat (bé normal, inferior, de luxe, substitut, complementari)

Defineix el concepte d'utilitat total i utilitat marginal

Diferencia els conceptes d'utilitat cardinal i ordinal

Representa gràficament la funció d'utilitat total i la funció d'utilitat marginal

Coneix el significat del concepte d'excedent del consumidor

Calcula el valor de l'excedent del consumidor

Representa gràficament l'excedent del consumidor

Relaciona el concepte d'excedent del consumidor amb la corba de demanda

Defineix la corba d'indiferència

Representa gràficament un mapa de corbes d'indiferència

Explicà les propietats de les corbes d'indiferència

Interpreta el concepte de relació marginal de substitució

Defineix la recta de balanç

Representa gràficament les rectes de balanç

Analitza conjuntament la restricció pressupostària amb les corbes d'indiferència

Calcula l'equilibri del consumidor

Dibuixa gràficament l'equilibri del consumidor

Determina la corba de demanda a partir de l'anàlisi de l'equilibri del consumidor

Analitza gràficament els efectes de canvis en els preus sobre les decisions de consum dels individus

Diferencia l'efecte renda i l'efecte substitució

Analitza gràficament l'efecte renda i l'efecte substitució

Defineix la funció de producció

Identifica els factors productius

Dibuixa gràficament la funció de producció

Diferencia la funció de producció a curt i llarg termini

Defineix el producte total

Defineix el producte marginal

Defineix el producte mitjà

Dibuixa gràficament la funció de producte total, marginal i mitjà

Relaciona els conceptes de producte total, marginal i mitjà

Coneix a llei de rendiments decreixents

Defineix el concepte de rendiments d'escala

Distingeix entre rendiments d'escala creixents, decreixents i constants

Defineix els costos totals

Defineix els costos marginals

Defineix els costos mitjans

Dibuixa gràficament les funcions de costos (cost total, cost mitjà i cost marginal)

Calcula els costos de producció

Coneix el significat de competència perfecta

Descriu les característiques de la competència perfecta

Dibuixa gràficament el costos, ingressos i els d'una empresa en competència perfecta

Dibuixa gràficament el nivell de producció d'equilibri d'una empresa en competència perfecta

Diferencia el comportament de les empreses en competència perfecta a curt i llarg termini

Coneix el funcionament pràctic dels mercats agrícoles

Determina la corba d'oferta de la indústria

Dibuixa gràficament la corba d'oferta de la industria

Identifica les característiques d'un mercat monopolista

Determina gràficament el nivell de producció i el preu que maximitza el benefici del monopolista

Calcula el nivell de producció i el preu que maximitza el benefici del monopolista

Analitza gràficament les diferències entre el monopoli i competència perfecta

Determina els efectes de les diferències entre el monopoli i la competència perfecta sobre el benestar dels individus

Identifica les característiques d'un oligopoli

Explica les estratègies dels mercats oligopolístics per maximitzar els beneficis

Aplica la teoria de jocs, a través del dilema del presoner, per comprendre el funcionament dels mercats oligopolístics

Representa gràficament la funció de demanda trencada de la indústria oligopolística

Identifica empreses que operen en mercats oligopolístics

Identifica les característiques de la competència monopolística

Explica el paper que juga la diferenciació del producte en els mercats de competència monopolística

Analitza gràficament la determinació de preus i beneficis en els mercats de competència monopolística

Explica la importància de la publicitat i les marques comercials en els mercats de competència monopolística

Identifica empreses que operen en mercats de competència monopolística

Interpreta les situacions de falles en el mercat.

Defineix els conceptes de cost i ingrés externs.

Explica que són les externalitats.

Identifica les situacions amb externalitats positives i les negatives.

Identifica les mesures dissenyades per a reduir els efectes de les externalitats negatives.

Identifica les mesures dissenyades per a incentivar la producció de béns i serveis que generen externalitats positives.

Defineix el concepte de bé excloent.

Defineix el concepte de bé rival en consum.

Distingeix entre un bé privat i un bé públic.

Utilitza l'anàlisi cost-benefici per la provisió de béns públics.

Significant competences

without translate

Competències generals o bàsiques (CB)

1. Capacitat d'anàlisi i síntesi.
2. Capacitat de crítica i autocrítica.

3. Ser capaç de treballar i d'aprendre de forma autònoma i, simultàniament, interactuar adequadament amb la resta a través de la cooperació i col·laboració.
4. Actuar en atenció al rigor, al compromís personal i amb orientació a la qualitat.

Competències específiques (CES)

1. Identificar i interpretar els factors econòmics, ambientals, polítics, sociològics i tecnològics en els àmbits local, nacional i internacional, i la seva repercussió sobre les organitzacions.

Competències estratègiques universitat (CEU)

1. Correcta expressió oral i escrita.
2. Domini de les TIC.

Subject contents

Subject contents

Topic 1.- Basic principles of economics

1.1.Basic concepts

1.2.Individual choice

1.3.The production possibility frontier

1.4.-The circular flow of income

1.5.-Graphic representations in economics

Topic 2.- Supply and demand: a model of perfect competition

2.1.The demand curve

2.2.The supply curve

2.3.The equilibrium price

2.4.Elasticity

Topic 3.- Demand and consumer behaviour

3.1.-The consumer and utility

3.2.-Consumer surplus

3.3.-The ordinal approach

Topic 4.- Business decisions: production, costs and profits

4.1.-Businesses and decision-making

4.2.-The production function

4.3.-Production costs

Topic 5.- Businesses in perfect competition markets

5.1.-Introduction

5.2.-Production and profits: short-term analysis

5.3.-Production and profits: long-term analysis

Topic6.- Market structures: beyond perfect competition

6.1.-Monopoly

6.2.-Oligopoly

6.3-Monopolistic competition

Topic 7.- Market errors and the role of the State

7.1.-Externalities

7.2.-Public goods

Methodology

without translate

Dates (Setmanes)	Descripció	Activitat Presencial	HTP (2) (Hores)	Activitat treball autònom	HTNP (3) (Hores)
1	Presentació de l'assignatura Exposició Tema 1	Exposició	2.5	Lectura pràctica voluntària cerca informació econòmica	1.5
1	Pràctica Grups Mitjans	Cerca d'informació econòmica en bases de dades	1.5		
2	Exposició Tema 1	Exposició	2.5	Realització de la pràctica voluntària cerca d'informació econòmica	1.5
2	Pràctica Grups Mitjans	Cerca d'informació econòmica en bases de dades	1.5		
3	Exposició Tema 2	Exposició	2.5	Realitzar pràctiques cerca informació	2
3	**Prova avaluable (PAC1) Grups Mitjans (10%)**	**Buscar la informació econòmica en les bases de dades de l'IDESCAT i INE**	**1.5**		
4	Exposició Tema 2	Exposició	2.5	Realitzar pràctiques dossier Tema 1 Estudi Tema 1	2 2

4	**Prova avaluable (PAC1) Grups Mitjans (10%)**	**Buscar la informació econòmica en les bases de dades de l'IDESCAT i INE**	**1.5**		
5	Exposició Tema 2	Exposició	2.5	Realitzar pràctiques dossier Tema 1 Estudi Tema 1	1.5 3
5	Pràctica Grups Mitjans	Resolució exercicis dossier Tema 1	1.5		
6	Exposició Tema 3	Exposició	2.5	Realitzar pràctiques dossier Tema 2 Estudi Tema 2	2 4
6	Pràctica Grups Mitjans	Resolució exercicis dossier Tema 1/Tema 2	1.5		
7	Exposició Tema 3	Exposició	2.5	Realitzar pràctiques dossier Tema 2 Preparar PAC 2	2 5
7	Pràctica Grups Mitjans	Resolució exercicis dossier Tema 2	1.5		
8	Exposició Tema 4	Exposició	2.5		
8	Pràctica Grups Mitjans	Resolució exercicis dossier Tema 3	1.5	Realitzar pràctiques dossier Tema 3 Estudi Tema 3	2 4
9	**Prova avaluable (PAC2) (20%)**	**Prova dels temes 1 i 2**	**2**		
10	Exposició Tema 5	Exposició	2.5	Realitzar pràctiques dossier Tema 3 Estudi Tema 3 i 4	2 3
10	Pràctica Grups Mitjans	Resolució exercicis dossier Tema 3 i Tema 4	1.5		
11	Exposició Tema 5	Exposició	2.5	Realitzar pràctiques dossier Tema 4 Estudi PAC3	2 8
11	Pràctica Grups Mitjans	Resolució exercicis dossier Tema 4	1.5		

12	**Prova avaluable (PAC3) (25%)**	**Prova teòrica i pràctica (Temes 1 al 4)**	**2**	Realitzar pràctiques dossier Tema 5 Estudi Tema 5	2 3
12	Pràctica Grups Mitjans	Resolució exercicis dossier Tema 5	1.5		
13	Exposició Tema 6	Exposició	2.5	Estudi Tema 5	2
13	Pràctica Grups Mitjans	Resolució exercicis dossier Tema 5	1.5		
14	Exposició Tema 6	Exposició	2.5	Realitzar pràctiques dossier Tema 5 i 6 Estudi Tema 6	3 4.5
14	Pràctica Grups Mitjans	Resolució exercicis dossier Tema 6	1.5		
15	Exposició Tema 7	Exposició	2.5	Realitzar pràctiques dossier Tema 5 i 6 Estudi Tema 6 Preparar PAC 4	2 3 8
15	Pràctica Grups Mitjans	Resolució exercicis dossier Tema 6	1.5		
16	**Prova avaluable (PAC4) (20%)**	**Prova dels temes 4,5 i 6.**	**2**	Estudi PAC 5	15
17, 18 o19	**Prova avaluable (PAC5) (25%)**	**Prova final de tota l'assignatura**	**2**		

Evaluation

without translate

INFORMACIÓ PER ALS GRUPS DEL MATÍ:

L'avaluació de l'assignatura d'Economia I és fa a través de la realització de les diverses proves d'avaluació continuada. En concret es realitzaran **5 proves** d'avaluació al llarg del semestre:

Prova	Tipus d'activitat	Percentatge sobre la nota final
Prova 1	Prova Cerca informació a la Xarxa	10%
Prova 2	Prova Tema 1,2	15%

Prova 3	Prova Tema 1,2,3 i 4	25%
Prova 4	Prova Tema 4,5 i 6	25%
Prova 5	Examen Final	25%

Les proves d'avalaució continauda seran de diferents tipus:

Les proves tipus test seran preguntes amb 4 possibles respostes on només una és vàlida. Cada resposta incorrecta restarà un 0,25.

Les **proves escrites** són activitats d'avaluació continuada que poden incloure exercicis pràctics, la interpretació de dades econòmiques, l'ús actiu de la xarxa per tal de cercar informació relacionada amb la matèria treballada, l'anàlisi o debat d'algun aspecte de l'economia que haguem treballat en l'assignatura, la lectura d'articles i/o l'elaboració d'un treball.

L'examen final constarà de tres parts; una part tipus test, una part on caldrà desenvolupar preguntes teòriques i la resolució d'exercicis pràctics.

Totes les activitats són individuals i obligatòries per obtenir la qualificació final. La no presentació a alguna de les activitats d'avaluació obtindrà una qualificació de zero.

Cada activitat té una nota de 0 a 10.

Aquelles estudiants que no es presentin a cap de les activitats avaluables la nota final serà NO PRESENTAT.

Abans de realitzar la 4a. prova d'avaluació els estudiants podran decidir abandonar l'assignatura i per tant aquesta decisió comportarà que la seva nota final sigui NO PRESENTAT. La decisió no cal comunicar-la al professor. S'entendrà que la decisió està presa si l'estudiant no realitza la 4a prova d'avaluació continuada.

Bibliography

Recommended bibliography

- Gimeno, J.A and Guirola, J.M. (1997). *Introducción a la economía*. Editorial McGraw-Hill
- Krugman, P.; Wells, R. and Olney, M. L *.(2008). Fundamentos de Economía. Editorial Reverté*
- *Krugman, P. and Wells, R. (2007). Microeconomía: Introducción a la Economía. Editorial Reverté*
- Lipsey, R.G and Harbury C. (1998). *Principis d'economia*.Editorial Vicens Vives
- *Mochón,F. (2006). Economía:teoría y política. McGraw-Hill*
- Samulson,P.A and Nordhaus, W.D. (2010). *Economía*.Editorial McGraw-Hill
- *TorresLópez, J. (2005). EconomíaPolítica. Editorial Pirámide*

DEGREE CURRICULUM

MARKETING MANAGEMENT

Coordination: Jaume Codina Mejón

Academic year 2015-16

Subject's general information

Subject name	MARKETING MANAGEMENT
Code	101310
Semester	1st. Semester
Typology	Obligatoria
ECTS credits	6
Groups	2 GG, 5 GM
Theoretical credits	2.4
Practical credits	3.6
Coordination	Jaume Codina Mejón
Office and hour of attention	Jaume Codina Despacho 1.07 FDE Martes: 10:00-13:00 h / 17:30-19:30 h Miércoles: 17:00-18:00 h Berta Ferrer Rosell Despacho 1.11 FDE
Department	ADMINISTRACIÓN DE EMPRESAS Y GESTIÓN ECONÓMICA DE LOS RECURSOS NATURALES (AEGERN)
Modality	Presencial
Language	Catalán
Degree	Grado en ADE
Distribution of credits	40% presencial - 60h presenciales 60% no presencial - 90h trabajo autónomo
E-mail addresses	cmjaume@aegern.udl.cat

Teaching staff

Jaume Codina Mejón Berta Ferrer Rosell

Subject's extra information

La asignatura de Dirección de marketing es una asignatura obligatoria del segundo curso del Grado en Administración y Dirección de empresas (ADE) de la Facultad de Derecho y Economía de la Universitat de Lleida. Con una carga docente de 6 créditos, la cual tiene que suponer aproximadamente unas 150 horas de trabajo, se presenta como la primera asignatura que os introducirá en el área de marketing dentro del grado en ADE.

En los siguientes cursos, además, podréis completar vuestros conocimientos dentro del área de marketing cursando la asignatura obligatoria de Marketing estratégico en el tercer curso, así como otras asignaturas optativas, como Investigación de marketing donde podréis estudiar el proceso de la investigación de mercados, así como las principales técnicas cualitativas o la asignatura de Comercio Exterior, donde se introducirán los conceptos, los mecanismos y las dinámicas para empezar la actividad exportadora y/o importadora de la empresa.

Recomendaciones:

Para el estudio y desarrollo de esta asignatura, es importante:

Seguir las explicaciones realizadas por el profesor e ir configurando vuestras anotaciones. Leer cada semana vuestras anotaciones y hacer énfasis en los conceptos fundamentales que se han de comprender y retener.

Hacer los correspondientes ejercicios propuestos. Algunas actividades serán resueltas por el profesor y otras las trabajaréis y resolveréis vosotros.

Relacionar los contenidos teóricos explicados en clase con casos de empresas reales.

Buscar información complementaria: bibliografía específica (dada por el profesor) e información que pueda existir en la red, concreta y relacionada con esta materia.

Por lo mencionado en los puntos anteriores, es totalmente recomendable realizar los casos prácticos propuestos en la asignatura. El objetivo es asimilar los conceptos teóricos de la asignatura y darle una aplicación práctica.

La mayoría de las actividades y las pruebas escritas se realizarán y entregarán en clase. Por tanto, es importante la asistencia a las sesiones lectivas.

El Campus Virtual de la UdL (Sakai) es imprescindible para el desarrollo de esta asignatura. Se utilizará para dar avisos, informaciones del profesor (espacio anuncios), para publicar los contenidos de la asignatura (espacio recursos), para publicar los enunciados de las actividades (espacio recursos), para debatir virtualmente algún caso práctico (espacio debate) , para enviar mensajes individuales (espacio mensajes)??, y para que pueda consultar la temporalización de la asignatura (espacio agenda).

Learning objectives

Ver apartado de competencias.

Significant competences

Competencias estratégicas de la Universidad de Lleida

- Dominio de las Tecnologías de la Información y la Comunicación.
- Corrección en la expresión oral y escrita

Competencias específicas de la titulación

- Desempeñar las funciones relacionadas con las distintas áreas funcionales de una empresa e instituciones.

Objetivos

  - Asentar unas bases teóricas sólidas que permitan desarrollar las propias habilidades en el área de comercialización e investigación de mercados.

- Identificar e interpretar los factores económicos, ambientales,políticos, sociológicos y tecnológicos en los ámbitos local, nacional e internacional y su repercusión sobre las organizaciones.

Objetivos

  - Obtener una visión general, y a la vez profunda, de los aspectos más importantes de esta moderna ciencia social y concretamente de su aplicación en entornos cada vez más competitivos.

Competencias transversales de la titulación

- Actuar en base al rigor, al compromiso personal y con orientación a la calidad.

Objetivos

  - Proporcionar al estudiante un enfoque teórico y práctico de los principales aspectos del marketing, el contexto de trabajo del marketing y las estrategias de marketing más utilizadas.

- Capacidad de organizar y planificar.

Objetivos

  - Proporcionar al estudiante un enfoque teórico y práctico de los principales aspectos del marketing, el contexto de trabajo del marketing y las estrategias de marketing más utilizadas.

- Ser capaz de trabajar y de aprender de forma autónoma y simultáneamente interactuar adecuadamente con los demás, cooperando y colaborando.
- Capacidad de crítica y autocrítica.

Objetivos

  - Reconocer el marketing como filosofía y como técnica en la empresa, tanto en sus aspectos teóricos como prácticos, aplicable en el si de las organitzaciones de nuestro entorno.

- Trabajo en equipo y liderazgo.
- Capacidad de análisis y de síntesis.

Objetivos

- Conocer los procesos orientados a crear, comunicar, suministrar y intercambiar productos y servicios en el mercado que tengan valor para clientes, empresas y la sociedad en general.

Subject contents

Subject 1. Foundings of marketing

Subject 2. The marketing management

Subject 3. Marketing environtment

Subject 4. Segmentation and positioning

Subject 5. Behaviour of the consumer

Subject 6. Marketing research

Methodology

GG: Clase magistral y apoyo de medios electrónicos y audiovisuales.
GM: Método del caso, resolución de actividades de evaluación y apoyo de medios electrónicos y audiovisuales.

Development plan

Semanas	Fechas	Descripción	Actividad presencial	HTP (Horas)	Actividad Trabajo autónomo	HTNP (Horas)
1	14-18 septiembre	Presentación asignatura Tema 1	Atención a la exposición	2h	Captura del programa y bibliografia Estudio	2h
2	21-25 septiembre	Tema 1	Atención a la exposición y actividad de debate	3h 30'	Estudio y participación en actividad planteada	4h
3	30 septiembre a 2 octubre	Tema 2	Atención a la exposición y resolución de caso práctico	3h 30'	Estudio y resolución de actividad planteada	4h
4	05-09 octubre	Tema 2	Atención a la exposición y resolución de caso práctico	3h 30'	Estudio y resolución de actividad planteada	4h
5	13-16 octubre	Tema 2	Atención a la exposición y resolución de caso práctico	3h 30'	Estudio y resolución de actividad planteada	4h
6	19-23 octubre	1a activitat d'avaluació	Atención a la exposición y resolución de caso práctico	3h 30'	Estudio y resolución de actividad planteada	4h
7	26-30 octubre	Tema 3	Atención a la exposición y resolución de caso práctico	3h 30'	Estudio y resolución de actividad planteada	4h
8	02-06 noviembre	Tema 3	Atención a la exposición y resolución de caso práctico	3h 30'	Estudio y resolución de actividad planteada	4h
9	10 noviembre	1a actividad de evaluación	Prueba tipo test	4h	Estudio y preparación de actividad de evaluación	8h

Semanas	Fechas	Descripción	Actividad presencial	HTP (Horas)	Actividad Trabajo autónomo	HTNP (Horas)
10	16-20 noviembre	Tema 3	Atención a la exposición y resolución de caso práctico	3h 45'	Estudio y resolución de actividad planteada	4h
11	23-27 noviembre	Tema 4	Atención a la exposición y resolución de caso práctico	3h 45'	Estudio y resolución de actividad planteada	4h
12	01-04 diciembre	Tema 4	Atención a la exposición y resolución de caso práctico	3h 45'	Estudio y resolución de actividad planteada	4h
13	07-11 diciembre	2a actividad de evaluación	Prueba tipo test	3h 45'	Estudio y preparación de actividad de evaluación	8h
14	14-18 diciembre	Tema 5	Atención a la exposición y resolución de caso práctico	3h 45'	Estudio y resolución de actividad planteada	4h
15	21-22 diciembre	Tema 6	Atención a la exposición y resolución de caso práctico	3h 45'	Estudio y resolución de actividad planteada	4h
16	07-08 enero	Tema 6	Atención a la exposición y resolución de caso práctico	3h 45'	Estudio y resolución de actividad planteada	4h
17	20 enero	3a actividad de evaluación	Prueba escrita	6h	Estudio y preparación de actividad de evaluación	15h

Evaluation

Evaluación continuada

La calificación final de la asignatura se obtiene de la media ponderada de las calificaciones obtenidas en cada una de las cuatro actividades de evaluación, según el peso asignado a cada una de ellas.

Dada la naturaleza acumulativa de la materia, la nota mínima que será necesario obtener en la última prueba será un 4 para que sean tenidas en cuenta el resto de pruebas de la evaluación continuada. En caso contrario la assignatura quedará suspendida.

No Presentado: El estudiante que únicamente realice pruebas de evaluación que sumen un peso inferior al 52%, como nota final de la asignatura obtendrá la calificación de No Presentado.

En las pruebas tipo test se ha de tener en cuenta que las respuestas incorrectas restan un 25% de la nota correcta.

El cuadro siguiente detalla la lista de actividades de eavaluación de la asignatura.

Objectivos	Actividades de Evaluación	%	Fechas	Observaciones
Tema 1 a 3	Prueba evaluación contínua 1	25	Martes, 10 de noviembre de 2015. De 15:00 a 17:00 horas.	Aulas 3.01y 3.02 (EP)
Tema 4 a 5	Prueba evaluación contínua 2	26	Jueves, 10 de diciembre de 2015.	Aula 3.02 (EP)
Tema 1 a 6	Prueba evaluación contínua 3	29	Miercoles, 20 de enero de 2016. De 15:00 a 17:00 horas.	Aulas 3.01, 3.02 (EP) y -1.02 (FDE)
	Participación activa en classe y resolución de casos	20	a lo largo del curso	Aulas 3.02 y 3.03 (EP)

Evaluación alternativa

Según la normativa de evaluación de la Universitat de Lleida, en caso que un/a estudiante acredite documentalmente (contrato de trabajo y resumen de la vida laboral expedido por la Tesoreria de la Seguridad Social) que está trabajando en jornada laboral completa durante el curso docente y, por tanto, no puede cumplir con los requisitos establecidos por la evaluación contínua, podrá optar por la realitzación de una prueba única de validación de competencias y conocimientos que se realizará en las semanas señaladas este efecto en el calendario de evaluación del grado.

Bibliography

BIBLIOGRAFÍA BÁSICA Y COMPLEMENTARIA

· *KOTLER, Philip; ARMSTRONG, Gary (2012): Principios de Marketing (12ª Edición); Pearson Educación, Madrid. ISBN:978-84-8322-446-5*

· *MAQUEDA, Javier -Coordinador- (2012): Marketing para los nuevos tiempos; Mc Graw Hill, Madrid. ISBN:978-84-481-7989-2*

· *RODRIGUEZ ARDURA, INMA et alter (2008): Principios y estrategias de marketing (2ª Edición); Editorial UOC, Barcelona. ISBN:84-9788-426-4*

· *SANTESMASES MESTRE, Miguel (2009): Fundamentos de marketing; Ediciones Pirámide, Madrid. ISBN:978-84-3682-294-6*

REVISTAS

- Marketing + Ventas - España
- IPMark - España
- Harvard-Deusto Marketing & Ventas - España
- Harvard-Deusto Business Review - España

RECURSOS ELECTRÓNICOS

Material de soporte al manual *Principios y estrategias de marketing (2ª Edición)* : http://www.editorialuoc.com/marketing

Marketing Directo: http://www.marketingdirecto.com/

DEGREE CURRICULUM

FINANCIAL ACCOUNTING

Coordination: Ramon Saladrigues Solé

Academic year 2015-16

Subject's general information

Subject name	FINANCIAL ACCOUNTING
Code	101311
Semester	1r Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	6
Groups	2 (grup matí i grup tarda)
Theoretical credits	3
Practical credits	2
Coordination	Ramon Saladrigues Solé
Office and hour of attention	Ramon Saladrigues Solé Dimarts de 15 a 17h Ferran Brianso Gil Dimarts de 13 a 14h i divendres de 11:30 a 12:30 Joan Baigol Guilanya Dijous de 16 a 18h.
Department	Administració d'Empreses i Gestió Econòmica dels Recursos Naturals
Teaching load distribution between lectures and independent student work	(40%) 60h presencials (60%) 90h treball autònom
Modality	Presencial
Language	Català
Degree	Degree in Business Administration and Management
Distribution of credits	Ramon Saladrigues Solé 2.1 Ferran Brianso Gil 8.1 Joan Baigol Guilanya 8.1
E-mail addresses	ramon.saladrigues@aegern.udl.cat fbrianso@aegern.udl.cat jbaigol@aegern.udl.cat

Teaching staff

Ramon Saladrigues Solé Ferran Brianso Gil Joan Baigol Guilanya

Subject's extra information

Suggestions

Financial Accounting is a basic, central subject in the Business Administration degree course. Achieving the competences specified for this subject will allow you to tackle a whole set of subjects related to accountng and business finance without difficulties. You are adviced to work regularly.

Learning objectives

Without Translate-Una vegada assolides les competències de les assignatures «Fonaments de comptabilitat» i «Planificació comptable», i un cop dominada la sistemàtica comptable i el desenvolupament d'un cicle comptable complert, l'objectiu de l'assignatura «Comptabilitat Financera» és introduir l'alumne en el desenvolupament de les normes de valoració dels elements dels comptes anuals. Es tractarà de sistematitzar pràctiques comptables concretes, tot posant l'accent en la valoració dels elements que constitueixen els comptes anuals, mitjançant la correcta aplicació de la normativa en matèria d'informació financera: el PGC que es deriva de les NIIF.

See competences

Significant competences

University of Lleida strategic competences

- ?Correctness in oral and written language.

Goals

  - Without Translate - Interpretar correctamente las normas de valoración. Aplicar las normas de valoración de los elementos de las cuentas anuales.

- Master Information and Communication Technologies.

Goals

  - Without Translate - Calcular i aplicar el criteri del cost amortitzat Calcular els efectes sobre els resultats, sobre els fluxos de caixa i sobre el patrimoni net de l'empresa

Degree-specific competences

- Create and direct a business, which listens and responds to the changes of the environment in which it operates.

Goals

  - Without Translate - Calcular els efectes sobre els resultats, sobre els fluxos de caixa i sobre el patrimoni net de l'empresa.

- Apply instrumental techniques to the analysis and solution of business problems and to the taking of decisions.

Goals

  - Without Translate - Aplicar les normes de valoració dels elements dels comptes anuals. Identificar i

classificar els instruments financers. Calcular i aplicar el criteri del cost amortitzat. Sistematitzar pràctiques comptables concretes. Elaborar i interpretar els estats financers. Calcular els efectes sobre els resultats, sobre els fluxos de caixa i sobre el patrimoni net de l'empresa.

- Intervene in operations belonging to financial entities and markets.

Goals

- Without Translate - Elaborar i interpretar els estats financers. Identificar i classificar els instruments financers. Calcular i aplicar el criteri del cost amortitzat.

- Perform the roles related to the different functional areas of a business and institutions.

Goals

- Without Translate - Identificar diferències entre la norma comptable i la norma fiscal. Elaborar i interpretar els estats financers.

- Elaborate, interpret and audit the economical-financial information of entities and individuals, and provide them with assessment.

Goals

- Without Translate - Elaborar i interpretar els estats financers. Calcular els efectes sobre els resultats, sobre els fluxos de caixa i sobre el patrimoni net de l'empresa.

Degree-transversal competences

- Ability to criticise and be self-critical.

Goals

- Without Translate - Elaborar i interpretar els estats financers. Identificar diferències entre la norma comptable i la norma fiscal. Aplicar les normes de valoració dels elements dels comptes anuals. Calcular els efectes sobre els resultats, sobre els fluxos de caixa i sobre el patrimoni net de l'empresa.

- Ability to organise and plan.

Goals

- Without Translate - Elaborar i interpretar els estats financers. Aplicar les normes de valoració dels elements dels comptes anuals.

- Teamwork and leadership.

Goals

- Without Translate - Sistematitzar pràctiques comptables concretes.

- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.

Goals

- Without Translate - Aplicar les normes de valoració dels elements dels comptes anuals. Sistematitzar pràctiques comptables concretes.

- Ability to analyse and synthesise.

Goals

- Without Translate - Elaborar i interpretar els estats financers. Calcular els efectes sobre els resultats, sobre els fluxos de caixa i sobre el patrimoni net de l'empresa.

- Act in accordance with rigour, personal compromise and in a quality orientated way.

Goals

- Without Translate - Interpretar correctament les normes de valoració. Sistematitzar pràctiques comptables concretes. Elaborar i interpretar els estats financers. Calcular els efectes sobre els resultats, sobre els fluxos de caixa i sobre el patrimoni net de l'empresa.

Subject contents

MODULE 1: ACCOUNTING STANDARDS

1.-REFORM OF THE ACCOUNTING LEGISLATION

1.1.-European accounting harmonisation

1.2.-The International Financial Reporting Standards

1.3.-Commercial reform in Spain: Commercial Code, TRLSA and the General Accounting Plan

2.-THE GENERAL ACCOUNTING PLAN

2.1.-Structure of the General Accounting Plan

2.2.-The conceptual framework

2.2.1.-Annual accounts and a true and fair view

2.2.2.-Accounting information requirements

2.2.3.-Accounting principles

2.2.4.-Autonomous Community elements

2.2.5.-Registration criteria and Autonomous Community element recognition

2.2.6.-Evaluation criteria

MODULE 2: INVESTMENT IN NON-CURRENT ASSETS

1.-NON-CURRENT ASSETS: CONTENT AND CLASSIFICATION

2.- TANGIBLE FIXED ASSETS

2.1.-Concepts and types of tangible fixed asset

2.2.-Recognition and initial valuation

2.2.1.-Acquisition from third parties / Acquisition price

2.2.2.-Own construction / Production cost

2.3.-Valuation following initial recognition

2.3.1.-Depreciation

2.3.2.-Deterioration in value

2.3.2.1.-Deterioration in value of an individual item

2.3.2.2.-Deterioration in value of a cash generation unit

2.4.-Retiring a tangible fixed asset

2.5.-Accounting treatment of certain operations

2.5.1.-Exchanges

2.5.2.-Renewal, expansion and improvement

2.5.3.-Non-cash capital contributions

2.5.4.-Leasing and other similar operations

3.- INTANGIBLE FIXED ASSETS

3.1.-Concepts and types of intangible fixed asset

3.2.-Recognition and initial valuation

3.2.1.-Requirements additional to recognition

3.3.-Valuation following initial recognition and retiring a intangiblefixed asset

3.4.-Accounting treatment of certain operations

3.4.1.-R+D costs

3.4.2.-Administrative concessions

3.4.3.-Industrial property

3.4.4.-Commercial funds

3.4.5.-Transfer rights

3.4.6.-Computer applications

4.-PROPERTY INVESTMENTS

4.1.-Item, recognition, initial and final valuation, value corrections,retiring

5-.NON-CURRENT ASSETS MAINTAINED FOR SALE

5.1.-Item, recognition, initial and final valuation, value corrections,retiring

MODULE 3: FINANCIAL INSTRUMENTS

1.-FINANCIAL INSTRUMENTS: CONTENT AND CLASSIFICATION

1.1.-Types of financial instrument

1.2.-Concept and classification of financial assets and liabilities

2.-FINANCIAL LIABILITIES

2.1.-Classification of financial liabilities

- 2.1.1.-Debits and items that must be paid
- 2.1.2.-Financial liabilities maintained for trading
- 2.1.3.-Other financial liabilities at reasonable value with changes to P&L
- 2.1.4.-Financial liabilities at reasonable value with changes to net assets

2.2.-Recognition and valuation of financial liabilities

- 2.2.1.-Initial valuation
- 2.2.2.-Subsequent valuation: the amortised cost

2.3.-Retiring financial liabilities

3.-FINANCIAL ASSETS

3.1.-Classification of financial assets

- 3.1.1.-Loans and items to be received
- 3.1.2.-Investments maintained to maturity
- 3.1.3.-Financial assets maintained for trading
- 3.1.4.-Other financial assets at reasonable value with changes in P&Laccounts
- 3.1.5.-Investments in group, multi-group and associated company assets
- 3.1.6.-Financial assets available for sale

3.2.-Recognition and valuation of financial assets

- 3.2.1.-Initial valuation
- 3.2.2.-Subsequent valuation
  - 3.2.2.1.-Financial assets valued at amortised cost
  - 3.2.2.2.-Financial assets valued at reasonable value, with changes to P&Land changes to net assets.

3.3.Value corrections for financial assets

3.4.Retiring financial assets

MODULE4: INCOME,EXPENDITURE AND RESULTS.

4.1.-Expenditure and income

4.1.1.-Income through sales and service provision and assets through relatedcommercial trade

4.1.2.-Expenditure on purchasing and services and liabilities throughcommercial trade

4.2.-Foreign currency transactions

4.3.-Liabilities through long-term staff remuneration

4.3.1.-Fixed contribution remuneration

4.3.2.-Fixed benefit remuneration

4.4.-Transactions with payments based on asset instruments

MODULE5: NET ASSETS

5.1.-Own funds

5.1.1.-Capital and reserves

5.1.2.-Division of the result

5.2.-The total result and adjustment due to value changes

5.2.1.-Concept of total result

5.2.2.-Analysis of the main adjustments due to value changes

5.3.-Subsidies, donations and legacies received

MODULE6: TAXES

6.1.-Profits tax.

6.1.1.-The tax-effected basis method

6.1.2.-Definition and concepts: Current tax, permanent and temporarydifferences, deferred tax assets and liabilities

6.1.3.-Differences between accounting and fiscal criteria: temporary taxableand deductible differences

6.1.4.-Payment deductions and discounts

6.1.5.-Compensation with negative taxable sums

6.2.-VAT

6.2.1.-The nature of value added tax

6.2.2.-Accounting for supported and transferred VAT

6.2.3.-Accounting for non-deductible VAT

6.2.4.-VAT settlements

MODULE7: PRESENTING INFORMATION

FINANCIALBALANCE SHEETS

7.1.-Standards for drawing up annual accounts

7.2.-Balance sheet

7.3.-Profit and loss account

7.4.-Balance sheet of changes in net assets

7.5.-Cash flow balance sheet

7.6.-The report

7.7.-Particular features of financial balance sheets

7.7.1.-Segmented information

7.7.2.-Intermediate balance sheets

Methodology

Without Translate-Cada mòdul comença presentant la normativa aplicable i la problemàtica comptable, sobre les que posteriorment es desenvoluparan els exercicis i casos pràctics.

Veure el pla de desenvolupament.

Development plan

Dates (Setmanes)	Descripció	Activitat Presencial	HTP (2) (Hores)	Activitat treball autònom	HTNP (3) (Hores)
1-2 Del 17.09 Al 24.09	Mòdul 1 (normalització comptable)	Seguiment de les classes presencials Resolució d'exercicis Debat de casos	8	Comprensió dels recursos docents Activitats i exercicis	11
3-5 Del 01.10 Al 18.10	Mòdul 2 (inversió en actius no corrents)	Seguiment de les classes presencials Resolució d'exercicis i casos Examen teòrico-pràctic	16	Comprensió dels recursos docents Activitats i exercicis	21
6-8 Del 22.10 Al 8.11	Mòdul 3 (passius financers)	Seguiment de les classes presencials Resolució d'exercicis	8	Comprensió dels recursos docents Activitats i exercicis	11
9 12.11	AVALUACIÓ	Examen teòrico-pràctic	2		4
10-11 Del 19.11 Al 29.11	Mòdul 3 (actius financers)	Seguiment de les classes presencials Resolució d'exercicis	8	Comprensió dels recursos docents Activitats i exercicis	11
12 Del 3.12 al 10.12	Mòdul 4 (resultats)	Seguiment de les classes presencials Resolució d'exercicis	4	Comprensió dels recursos docents Activitats i exercicis	5
13-14 Del 13.12 Al 20.12	Mòdul 5 (patrimoni net)	Seguiment de les classes presencials Resolució d'exercicis Examen teòrico-pràctic	6.5	Comprensió dels recursos docents Activitats i exercicis	11

Dates (Setmanes)	Descripció	Activitat Presencial	HTP (2) (Hores)	Activitat treball autònom	HTNP (3) (Hores)
15 Del 07.01 Al 10.01	Mòdul 6 (impostos)	Seguiment de les classes presencials Resolució d'exercicis	4	Comprensió dels recursos docents Activitats i exercicis	6
16 Del 14.01 Al 17.01	Mòdul 7 (estats financers)	Seguiment de les classes presencials Resolució d'exercicis	4	Comprensió dels recursos docents Activitats i exercicis	5
18-19 21.01	AVALUACIÓ	Examen teòrico pràctic	2		5

Evaluation

Objectius	Activitats d'Avaluació Criteris	%	Dates	O/V (1)	I/G (2)	Observacions
Mòduls 1 i 2	Examen teòrico-pràctic	16	Setmana 6	O	I	
Mòduls 1 i 2 i mòdul 3 (només passius financers)	Examen teòrico-pràctic	29	Setmana 9	O	I	
Mòduls 3 i 4	Examen teòrico-pràctic	16	Setmana 13	O	I	
Mòduls 1 a 7	Examen teòrico-pràctic	29	Setmana 18	O	I	
Aprofitament	Proves de seguiment	10	Durant el curs	V	G	

(1)Obligatòria / Voluntària (2)Individual / Grupal

Bibliography

Recommended bibliography

Resources on the Virtual Campus:

Classes are complemented with support material for the subject consisting ofexercises and case studies done, some of which are talked about in class while others (appropriately resolved and commented on) constitute additional material to complement the study of the subject.

Bibliography:

- ALONSO, A. and POUSA, R.: Casos prácticos del nuevo Plan General deContabilidad. Centro de Estudios Financieros, Madrid
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- AMAT,O and AGUILÀ, S. (coord.): Nuevo PGC y PGC PYMES: un análisis práctico y a fondo. Profit, Barcelona 2008
- AMAT,O. and AGUILÀ, S. (coord.): Del nuevo PGC en la práctica. Ejercicios y soluciones. Profit, Barcelona 2008
- Nou Pla General de Comptabilitat, Gestión 2000, Barcelona

DEGREE CURRICULUM

FONAMENTS DE FINANÇAMENT EMPRESARIAL (BASICS OF FINANCE)

Coordination: Ana Vendrell Vilanova

Academic year 2015-16

Subject's general information

Subject name	FONAMENTS DE FINANÇAMENT EMPRESARIAL (Basics of Finance)
Code	101312
Semester	1r Q Continuous assessment
Typology	Compulsory
ECTS credits	6
Groups	4 morning groups and 2 afternoon groups
Theoretical credits	0
Practical credits	0
Coordination	Ana Vendrell Vilanova
Office and hour of attention	ask secretarial department (1.31 office, 1st floor of Law and Economics Faculty)
Department	Administració d'Empreses i Gestió Econòmica dels Recursos Naturals (AEGERN)
Teaching load distribution between lectures and independent student work	(40%) 60h classroom (60%) 90h independent work
Modality	Presencial
Language	Catalan
Degree	Business Administration Degree (ADE)
Distribution of credits	Ana Vendrell 6 credits Morning Josep M. Riu 7,2 credits Morning Carles Morata 8,4 credits Afternoon
E-mail addresses	ana.vendrell@aegern.udl.cat jriu@aegern.udl.cat cmorata@aegern.udl.cat

Teaching staff

Ana Vendrell Josep M. Riu Carles Morata

Subject's extra information

Suggestions

Students are strongly recommended to attend classes, work and keep up to date with the subject. This means it is necessary to work on the subject every day, read notes before the corresponding class and do all the exercises and case studies set. At least 6 hours a week should be devoted to the subject. It is also highly recommended to sit all the assessment tests, which make it easier for students to learn and succeed.

The course as part of the academic plan

The Basics of Finance subject is taught in the second year of the BAM degree course. It involves introducing students into the sphere of structural finance so that, in subsequent years, they can continue complementing their knowledge of financial matters. This subject is important in that students will be able to acquire basic knowledge concerning strategic financial decisions taken by businesses. This will prepare them to be able to work for companies carrying out related tasks. It is essential to get the most from this subject in order to understand other subjects directly related to the degree course are taught in subsequent years.

Learning objectives

See competences

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.

Goals

  - Without Translate - Sintetitza el contingut d'un text o article
  - Without Translate - Utilitza i entén correctament el llenguatge financer
  - Without Translate - Distingeix els conceptes clau que es determinen en cada tema

- Master Information and Communication Technologies.

Goals

  - Without Translate - Aplica els mètodes de valoració d'inversions als FNC futurs per la presa de decisions amb l'ajut del full de càlcul
  - Without Translate - Calcula el cost de finançament de cadascuna de les fonts de finançament a llarg termini mitjançant el full de càlcul
  - Without Translate - Calcula el cost de capital mig ponderat i prepara diferents escenaris possibles amb l'ajut del full de càlcul
  - Without Translate - Calcula l'efecte del endeutament sobre la rendibilitat de l'empresa mitjançant el full de càlcul
  - Without Translate - Calcula l'efecte del endeutament sobre el risc de l'empresa mitjançant el full de càlcul
  - Without Translate - Elabora el quadre de Fluxos Nets de Caixa (FNC) futurs d'un projecte d'inversió amb el full de càlcul

Degree-specific competences

- Know the moral and ethical principles and the legal and social responsibility derived from one's own actions and those of the institution.
- Apply instrumental techniques to the analysis and solution of business problems and to the taking of decisions.

Goals

- Without Translate - Determina la importància que té la funció financera en una empresa Identifica els diferents elements financers que composen un projecte d'inversió Elabora el quadre de Fluxos Nets de Caixa (FNC) futurs d'un projecte d'inversió amb el full de càlcul Aplica els mètodes de valoració d'inversions als FNC futurs per la presa de decisions amb l'ajut del full de càlcul Distingeix els cicles financers i ho relaciona amb la generació i la necessitat de finançament Coneix el concepte d'equilibri financer i sap si una empresa està equilibrada Calcula el fons de maniobra mitjançant el balanç de l'empresa Calcula el cost de finançament de cadascuna de les fonts de finançament a llarg termini mitjançant el full de càlcul Calcula el cost de capital mig ponderat i prepara diferents escenaris possibles amb l'ajut del full de càlcul Identifica les diferents teories financeres de l'estructura de capital Calcula l'efecte del endeutament sobre la rendibilitat de l'empresa mitjançant el full de càlcul Calcula l'efecte del endeutament sobre el risc de l'empresa mitjançant el full de càlcul Identifica les diferents teories financeres sobre la decisió de dividends

- Identify and interpret the economical, environmental, political, sociological and technological factors in local, national and international ambits, and their repercusion upon organizations.

Goals

- Without Translate - Coneix els efectes dels preus dels actius reals i financers sobre la rendibilitat de les inversions productives
- Without Translate - Coneix el concepte d'estructura financera i els referents a utilitzar per part de les empreses
- Without Translate - Coneix els efectes dels preus dels actius financers i del mercat sobre el cost de finançament
- Without Translate - Coneix els efectes positius o negatius de l'endeutament empresarial en base a l'entorn econòmico-financer
- Without Translate - Coneix els efectes de l'entorn econòmico-financer sobre la capacitat d'endeutament empresarial
- Intervene in operations belonging to financial entities and markets.

- Perform the roles related to the different functional areas of a business and institutions.
- Elaborate, interpret and audit the economical-financial information of entities and individuals, and provide them with assessment.

Goals

- Without Translate - Distingue los conceptos clave que se determinan en cada tema. Sintetiza el contenido de un texto o artículo. Define el ámbito financiero y su objetivo. Determina la importancia que tiene la función financiera en una empresa. Conoce el concepto de inversión productiva. Elabora el cuadro de Flujos Limpios de Caja (FNC) futuros de un proyecto de inversión con la hoja de cálculo. Distingue la tipología de inversiones productivas. Domina los métodos de valoración de inversiones y sus limitaciones. Aplica los métodos de valoración de inversiones a los FNC futuros por la toma de decisiones con la ayuda de la hoja de cálculo. Distingue los ciclos financieros y lo relaciona con la generación y la necesidad de financiación. Enumera y clasifica las principales fuentes de financiación a qué puede recorrer la empresa. Conoce el concepto de equilibrio financiero y sabe si una empresa está equilibrada. Calcula el fondo de maniobra mediante el balance de la empresa. Calcula el coste de financiación de cada una de las fuentes de financiación a largo plazo mediante la hoja de cálculo. Calcula el coste de capital medio ponderado y prepara diferentes escenarios posibles con la ayuda de la hoja de cálculo. Identifica las diferentes teorías financieras de la estructura de capital. Calcula el efecto del endeudamiento sobre la rentabilidad de la empresa mediante la hoja de cálculo. Calcula el efecto del endeudamiento sobre el riesgo de la empresa

mediante la hoja de cálculo.

Degree-transversal competences

- Ability to criticise and be self-critical.

Goals

- Without Translate - Distingeix conceptes clau: es determinen en cada tema Detecta errors i proposa la forma de corregir-los Determina la importància que té la funció financera en una empresa Distingeix els cicles financers i ho relaciona amb la generació i la necessitat de finançament Coneix el concepte d'equilibri financer i sap si una empresa està equilibrada Calcula el fons de maniobra mitjançant el balanç de l'empresa Distingeix clarament entre deute i capital Coneix les fonts de finançament a llarg termini i els seus avantatges i inconvenients Coneix el concepte d'estructura financera i els referents a utilitzar per part de les empreses Coneix els efectes de l'endeutament sobre la rendibilitat i sobre el risc de l'empresa Coneix els efectes d'una política de dividends expansiva i restrictiva en les empreses

- Ability to organise and plan.

Goals

- Without Translate - Resol els supòsits seguint l'ordre correcte Elabora el quadre de Fluxos Nets de Caixa (FNC) futurs d'un projecte d'inversió amb el full de càlcul

- Teamwork and leadership.

Goals

- Without Translate - Resol els supòsits seguint l'ordre correcte Elabora el quadre de Fluxos Nets de Caixa (FNC) futurs d'un projecte d'inversió amb el full de càlcul

- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.

Goals

- Without Translate - Sintetitza el contingut d'un text o article Detecta errors i proposa la forma de corregir-los Resol els supòsits seguint l'ordre correcte Utilitza i entén correctament el llenguatge financer Determina les tasques del directiu financer Identifica el binomi inversió-finançament Coneix el concepte d'inversió productiva Elabora el quadre de Fluxos Nets de Caixa (FNC) futurs d'un projecte d'inversió amb el full de càlcul Distingeix la tipologia d'inversions productives Aplica els mètodes de valoració d'inversions als FNC futurs per la presa de decisions amb l'ajut del full de càlcul Distingeix els cicles financers i ho relaciona amb la generació i la necessitat de finançament Coneix el concepte d'equilibri financer i sap si una empresa està equilibrada Calcula el fons de maniobra mitjançant el balanç de l'empresa Distingeix clarament entre deute i capital Coneix les fonts de finançament a llarg termini i els seus avantatges i inconvenients Calcula el cost de finançament de cadascuna de les fonts de finançament a llarg termini mitjançant el full de càlcul Calcula el cost de capital mig ponderat i prepara diferents escenaris possibles amb l'ajut del full de càlcul Aplica els mètodes de valoració d'inversions als FNC futurs per la presa de decisions amb l'ajut del full de càlcul Distingeix els cicles financers i ho relaciona amb la generació i la necessitat de finançament Coneix el concepte d'equilibri financer i sap si una empresa està equilibrada Calcula el fons de maniobra mitjançant el balanç de l'empresa Distingeix clarament entre deute i capital Coneix les fonts de finançament a llarg termini i els seus avantatges i inconvenients Calcula el cost de finançament de cadascuna de les fonts de finançament a llarg termini mitjançant el full de càlcul Calcula el cost de capital mig ponderat i prepara diferents escenaris possibles amb l'ajut del full de càlcul Coneix el concepte d'estructura financera i els referents a utilitzar per part de les empreses Coneix els efectes de l'endeutament sobre la rendibilitat i sobre el risc de l'empresa Calcula

l’efecte del endeutament sobre la rendibilitat de l’empresa mitjançant el full de càlcul Calcula l’efecte del endeutament sobre el risc de l’empresa mitjançant el full de càlcul Coneix els efectes d’una política de dividends expansiva i restrictiva en les empreses

- Ability to analyse and synthesise.

Goals

- Without Translate - Distingeix conceptes clau: es determinen en cada tema Sintetitza el contingut d’un text o article Defineix l’àmbit financer i el seu objectiu Determina la importància que té la funció financera en una empresa Determina les tasques del directiu financer Coneix el concepte d’estructura financera i els referents a utilitzar per part de les empreses Identifica les diferents teories financeres de l’estructura de capital Coneix els efectes de l’endeutament sobre la rendibilitat i sobre el risc de l’empresa Calcula l’efecte del endeutament sobre la rendibilitat de l’empresa mitjançant el full de càlcul Calcula l’efecte del endeutament sobre el risc de l’empresa mitjançant el full de càlcul Identifica les diferents teories financeres sobre la decisió de dividends Coneix els efectes d’una política de dividends expansiva i restrictiva en les empreses Identifica el binomi inversió-finançament Distingeix conceptes clau: es determinen en cada tema Sintetitza el contingut d’un text o article Defineix l’àmbit financer i el seu objectiu Determina la importància que té la funció financera en una empresa Determina les tasques del directiu financer Identifica el binomi inversió-finançament Domina els mètodes de valoració d’inversions i les seves limitacions Aplica els mètodes de valoració d’inversions als FNC futurs per la presa de decisions amb l’ajut del full de càlcul Enumera i classifica les principals fonts de finançament a quines pot recórrer l’empresa Distingeix clarament entre deute i capital Coneix les fonts de finançament a llarg termini i els seus avantatges i inconvenients Calcula el cost de finançament de cadascuna de les fonts de finançament a llarg termini mitjançant el full de càlcul Calcula el cost de capital mig ponderat i prepara diferents escenaris possibles amb l’ajut del full de càlcul

- Act in accordance with rigour, personal compromise and in a quality orientated way.

Goals

- Without Translate - Detecta errors i proposa la forma de corregir-los Resol els supòsits seguint l’ordre correcte Elabora el quadre de Fluxos Nets de Caixa (FNC) futurs d’un projecte d’inversió amb el full de càlcul

Subject contents

Subject contents

The contents of the subject are the ones studied in the sphere of structural finance referring to all the issues that strategically affect the business; that is, those that commit it for a long period of time.

The specific questions to be studied are:

- The specific financial decisions pertaining to the financial director of a business.
- How business investment must be described from a financial point of view, in quantitative terms.
- Which economic aspects of business investment need to be evaluated.
- How to interpret the results obtained from evaluating business investment. Determining whether or not an investment is profitable.
- Knowing the different sources of finance the business can go to to finance its investments.
- Knowing the risks involved in choosing one type of finance or another.
- Knowing how to calculate the cost of using the different sources of finance used by the business.

TOPICS:

TOPIC 1: FINANCE IN BUSINESS.

1.1. HISTORICAL DEVELOPMENT OF FINANCE.

1.2. THE FINANCIAL FUNCTION AND THE ROLE OF THE FINANCIAL DIRECTOR.

1.3. FINANCIAL INFORMATION ON THE BALANCE SHEETS.

1.4. THE FINANCIAL OBJECTIVE.

1.5. OPERATING FINANCES AND STRUCTURAL FINANCES.

TOPIC 2: INVESTMENT DECISIONS THROUGH THE ANALYSIS OF INVESTMENT PROJECTS.

2.1. INTRODUCTION.

2.2. CONCEPT OF INVESTMENT AND INVESTMENT PROJECTS.

2.3. BASIC VARIABLES TO BE CONSIDERED IN THE FINANCIAL EVALUATION OF AN INVESTMENT PROJECT.

2.4. CLASSIFYING INVESTMENTS.

TOPIC 3: INVESTMENT ANALYSIS TOOLS.

3.1. INTRODUCTION.

3.2. STATIC INVESTMENT ANALYSIS METHODS.

3.3. DYNAMIC INVESTMENT ANALYSIS METHODS: UPDATING NET CASH FLOWS.

3.4. ACTUAL NET VALUE (ANV) OR CAPITAL VALUE (CV).

3.5. THE INTERNAL RATE OF RETURN (IRR) OR RETURN ON INVESTMENT.

3.6. THE DISCOUNTED PAYBACK PERIOD (DPP) OR DISCOUNTED RECOVERY PERIOD.

TOPIC 4: THE FINANCIAL STRUCTURE OF THE BUSINESS.

4.1. FINANCIAL CYCLES.

4.2. SOURCES AND MEANS OF FINANCE.

4.3. DEPRECIATION FUNDS OR SELF-FINANCING THROUGH MAINTENANCE.

4.4. EXTERNAL OR MARKET FINANCE.

TOPIC 5: LONG-TERM CAPITAL COST.

5.1. CONCEPT OF CAPITAL COST.

5.2. THE COST OF OUTSIDE FINANCIAL RESOURCES.

5.3. THE COST OF OWN FINANCIAL RESOURCES.

5.4. WEIGHTED AVERAGE CAPITAL COST.

TOPIC 6: COST-VOLUME-BENEFIT ANALYSIS

6.1. INTRODUCTION TO COST-VOLUME-BENEFIT ANALYSIS.

6.2. THE BREAK-EVEN POINT OR BUSINESS PROFITABILITY THRESHOLD.

6.3. THE REASONING BEHIND OPERATIONAL LEVERAGE.

6.4. FINANCIAL PROFITABILITY AND DEGREE OF DEBT.

DEBT AND THE INSTABILITY OF PROFIT. THE REASONING BEHIND FINANCIAL LEVERAGE

Methodology

The resources of the subject will be available on the Virtual Campus. The classes will be complemented with material support of the subject. The notes consist of synthetic tracks, computer support material, practical exercises and case studies that will be complementing the assistance necessary to achieve the skills and level of understanding and knowledge needed.

These resources will be available on campus as the course progresses.

Development plan

Week	Description: BG Big Group & SG Small Group	Classroom

1	BG: Introduction course & Lesson 1 SG:Practices	Explicació dels continguts, metodologia, materials i avaluació Resolució de testos del tema 1
2-8	BG: Lessons 2 & 3 SG: Practices	Master class & exercises Solving exercises and cases
9	**1st. Exam: lessons 1, 2 & 3**	**Novembre 12th from 15 to 17 h Classrooms: 3.01, 3.02 EP & -1.02 FDE**
10-12	BG: Lesson 4 SG: Practices	Master class & exercises Solving exercises and cases
13	**2nd. Exam: lessons 1, 2, 3 & 4**	**Date to be determined Classrooms: to be determined**
14-16	BG: Lessons 5 & 6 SG: Practices	Master class & exercises Solving exercises and cases
17-18	**3rd. Exam: lessons 1, 2, 3, 4, 5 & 6**	**January 15th from12 to 14:00 h Classrooms: 3.01, 3.02 EP & -1.02 FDE**
19	**Reassessment**	**January 29th from 9 to 11:00 h Clasrooms: 3.01, 3.02 EP i -1.02 FDE**

Evaluation

ldfkmeowqefm

Activity	%	Date, lessons and place
1st activity (AA1)	**25**	**Novembre 12th from 15 to 17 h Lessons 1,2 & 3 Classrooms: 3.01, 3.02 EP & -1.02 FDE**
2nd activity (AA2)	**25**	**Date to be determined Lessons 1, 2, 3 & 4 Classrooms: to be determined**
3rd activity (AA3)	**50**	**January 15th from12 to 14:00 h Lessons 1, 2, 3, 4, 5 & 6 Classrooms: 3.01, 3.02 EP & -1.02 FDE**
Reassessment (AR)	**50**	**January 29th from 9 to 11:00 h Lessons 1, 2, 3, 4, 5 & 6 Clasrooms: 3.01, 3.02 EP & -1.02 FDE**

Point average (PA)

PA =0,25AA1+0,25AA2+0,50AA3

Criteria:

The final grade will be obtained from the weighted average of the marks obtained in each of the three assessment activities, according to the weight assigned to each.

To get the passing grade must get a weighted average grade of 5 out of 10.
Failure in any of the activities involve an evaluation rating of zero activity not filed.
The student must submit at least 2 of the evaluation activities (not including activity reassessment) to qualify for Final mark (NF). Otherwise, have a rating of no (NP).
To do the weighted average of the qualifications and apply for FINAL GRADE (NF), students must obtain at least a score of 3 out of 10 in the last activity (Aa3). Otherwise, the course is suspended.
Evaluation activities are individual fulfillment and are mandatory.
There will be a reassessment activity (AR) activity 3 (AA3). This is voluntary and can be submitted only students examined previously suspended Activity 3 (AA3).
In the case of students who submitted the activity of reassessment (AR) will be canceled its press Activity 3 (AA3), and will feature, in order to make the average weighted grade of will activity reassessment (AR).

Bibliography

The subject resources will be available on the Virtual Campus. Classes requiring attendance will be complemented with “support material” for the subject. This will consist of notes summarising the topics, computerised support material, practical assignments, exercises and case studied which will provide additional help in achieving the competences, level of comprehension and knowledge required.

These resources will be available on the virtual campus as the academic year goes on.

Bibliography

Amat, O. (2008). Contabilidad y finanzas para no financieros. Deusto S.A. Ediciones.

Brealey, R.; Myers, S. (1999). Fundamentos de financiación empresarial. Madrid: McGraw-Hill.

Faus, J. (2001). Políticas y decisiones financieras para la gestión del valor de la empresa. Estudios y Ediciones IESE.

Fernández, L. (2007). La práctica de las finanzas de empresa. Madrid: Delta Publicaciones.

Pradas,L., Gómez, P. and Mañes, C. (2010). Inversió Empresarial. Barcelona: FUOC.

Martínez, E. (2005). Finanzas para directivos. Madrid: McGraw-Hill.

Mascareñas, J. (2010) Finanzas para directivos. Madrid: Pearson.

Suárez Suárez, A. S. (2005). Decisiones óptimas de inversión y financiación en la empresa. Madrid: Editorial Pirámide.

Termes, R. (1998). Inversión y coste de capital. Manual de Finanzas. Madrid: McGraw-Hill.

DEGREE CURRICULUM

ADVANCED STATISTICS

Academic year 2015-16

Subject's general information

Subject name	ADVANCED STATISTICS
Code	101314
Semester	1r Q Avaluació Continuada
Typology	Compulsory
ECTS credits	6
Theoretical credits	0
Practical credits	0
Office and hour of attention	a concretar
Department	Economia Aplicada
Modality	Presencial
Language	Català 95.0 Anglès 2.5 Castellà 2.5
Degree	Degree in Business Administration and Management
Distribution of credits	Jose Fernando Domingo Daza 8.1 Joan Baró Llinàs 12.3
E-mail addresses	josep.domingo@econap.udl.cat joan.baro@econap.udl.cat

Teaching staff

Jose Fernando Domingo Daza Joan Baró Llinàs

Subject's extra information

És convenient haver superar l'assignatura d'Estadística Bàsica.
ESTADÍSTICA AVANÇADA és continuació d'ESTADÍSTICA BÀSICA i completa el conjunt de coneixements que sobre Estadística ha de tenir un graduat.
ESTADÍSTICA AVANÇADA és necessària per poder seguir amb suficiència l'ECONOMETRIA.

Learning objectives

See Competences

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.

Goals

- To use the right statistical terminology in doing the activities.

- Master Information and Communication Technologies.

Goals

- - To use basic ICT resources to study the subject. - To use different computer programs effectively for descriptive statistical data processing.

Degree-specific competences

- Apply instrumental techniques to the analysis and solution of business problems and to the taking of decisions.

Goals

- To know the difference between types of sampling.
- To understand the concepts of point estimation and interval estimation.
- To know how to apply confidence intervals for some population parameters.
- To recognise the different types of statistical hipothesis.
- To know how to make parametric and non-parametric comparisons of hypotheses.
- To know how to apply multivariate analysis techniques.

- Identify and interpret the economical, environmental, political, sociological and technological factors in local, national and international ambits, and their repercusion upon organizations.
- Elaborate, interpret and audit the economical-financial information of entities and individuals, and provide them with assessment.

Degree-transversal competences

- Ability to criticise and be self-critical.

- Ability to organise and plan.

Goals

  - To know how to carry out statistical sampling processes by inference and multivariate analysis.

- Ability to analyse and synthesise.

Goals

  - To properly interpret statistical inference processes and assess the risks and errors that may be made.

- Act in accordance with rigour, personal compromise and in a quality orientated way.

Subject contents

Topic 1. Statistical sampling

1.1.Introduction to sampling and point estimation.

1.2.Sampling methods.

1.3.Generic sample. Concept of estimator.

1.4.Distributions of some statistics.

1.5.Distributions deduced from the normal distribution.

1.6.Properties of estimators.

Topic 2. Interval estimation

2.1.Notion of confidence interval.

2.2 Confidence interval for the mean and operations with means.

2.3 Confidence interval for the variance and operations with variances.

2.4.Confidence interval for the proportion and operations with proportions.

2.5.Determining the size of a sample.

Topic 3. Parametric comparison of hypotheses

3.1.Hypothesis comparison tools.

3.2.Types of error, level of significance and power of the comparison.

3.3.Comparison using the mean and operations with means.

3.4.Comparison using the variance and operations with variances.

3.5.Comparison by proportion and operations with proportions.

Topic 4. Non-parametric comparison of hypotheses

4.1.Introduction

4.2.Theoretical distribution fit test

4.3.Independence test

4.4.Runs test

4.5.Signs test

4.6Wilcoxon's test

4.7Mann-Whitney's U test

Topic 5. Multivariate analysis

5.1Principal Component Analysis

5.2Cluster Analysis

5.3Correspondence Analysis

Methodology

Activitats presencials:

Exposició del contingut dels temes amb explicació de la teoria, exemples i exercicis, en grup gran.

Classes pràctiques en grup mitjà: plantejament i resolució d'activitats amb utilització de diferents programes informàtics.

Tutoria: revisió dels continguts i resolució de dubtes, defensa o discussió de casos.

Activitats no presencials:

Estudi per part de l'alumne de la teoria, resolució d'exemples, exercicis i activitats manualment i amb suport informàticament i preparació de les proves d'avaluació.

Development plan

Dates (Setmanes)	Descripció:	Activitat Presencial	HTP (2) (Hores)	Activitat treball autònom	HTNP (3) (Hores)
1a.	**Presentació assignatura. Tema 1. Mostreig estadístic**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
2a.	**Tema 1. Mostreig estadístic**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
3a.	**Tema 2. Estimació per interval**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
4a.	**Tema 2. Estimació per interval**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
5a.	**Tema 2. Estimació per interval**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
6a.	**Tema 3. Contrastació paramètrica d'hipòtesis**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
7a.	**Tema 3. Contrastació paramètrica d'hipòtesis**	**Lliçó magistral i problemes**		**Exercicis i problemes**	

8a.	**Resolució de prova**	**Resolució prova**		**Exercicis i problemes**	
9a.	**SETMANA D'AVALUACIÓ**	**Resolució prova**		**Resolució prova**	
10a.	**Tema 4. Contrastació no paramètrica d'hipòtesis**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
11a.	**Tema 4. Contrastació no paramètrica d'hipòtesis**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
12a.	**Tema 4. Contrastació no paramètrica d'hipòtesis**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
13a.	**Tema 4. Contrastació no paramètrica d'hipòtesis**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
14a.	**Tema 5. Anàlisi Multivariant**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
15a.	**Tema 5. Anàlisi Multivariant**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
16a.	**Tema 5. Anàlisi Multivariant**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
17a.	**Tema 5. Anàlisi Multivariant**	**Lliçó magistral i problemes**		**Exercicis i problemes**	
18a.	**Resolució de prova**	**Resolució prova**		**Exercicis i problemes**	
19a	**SETMANA D'AVALUACIÓ**	**Resolució prova**		**Resolució prova**	

(2)HTP = Hores de Treball Presencial (3)HTNP = Hores de Treball No Presencial

Evaluation

Criteris d'avaluació

Totes les activitats d'avaluació són individuals i obligatòries per obtenir la qualificació final. La no presentació a alguna de les activitats d'avaluació obtindrà una qualificació de zero en l'activitat no presentada. Cada activitat tindrà una nota de 0 a 10.

Percentatge de pes que cada activitat té en l'avaluació final

Cada activitat d'avaluació tindrà un pes del 25% en la nota final, es considerarà superada l'assignatura amb una nota mitjana de les quatre proves entre 5 i 10.

Si de les quatre activitats d'avaluació no us presenteu a més de 2 (3 o 4 proves no presentades), la nota final serà NO PRESENTAT, si el número d'activitats d'avaluació presentades es més de dos (3 o 4 proves) la qualificació final serà el promig entre quatre.

Objectius	Activitats d'Avaluació Criteris	%	Dates	O/V (1)	I/G (2)	Observacions

Objectius	Activitats d'Avaluació Criteris	%	Dates	O/V (1)	I/G (2)	Observacions
	1a. Activitat (A1): Prova escrita que consistirà en una prova tipus test dels temes 1,2 i 3.	**25**	Setmana 9a	**O**	**I**	
	2a. Activitat (A2): Prova per avaluar el seguiment de les pràctiques 1, 2 i 3 que corresponen al temes 1, 2 i 3 dels continguts.	**25**	Setmana 8a	**O**	**I**	
	3a. Activitat (A3): Prova per avaluar el seguiment de les pràctiques 4 i 5 que corresponen al temes 4 i 5 dels continguts.	**25**	Setmana 18a	**O**	**I**	
	4a. Activitat (A4): Prova escrita que consistirà en una prova tipus test dels temes 4 i 5	**25**	Setmana 19a	**O**	**I**	

Bibliography

BIBLIOGRAPHY AND OTHER SOURCES OF INFORMATION

- Baró Llinàs, J., *Inferència Estadística ,* Ed. Parramón. Barcelona,1993
- Newbold, Paul, i altres. *Estadística para administración y economía,* Ed. Prentice Hall,2008
- Material en Web de l'assignatura

Universitat de Lleida

DEGREE CURRICULUM

MANAGEMENT

Coordination: Responsable de l'assignatura:
Blanca Escardíbul Ferrà

Academic year 2015-16

Subject's general information

Subject name	MANAGEMENT
Code	101315
Semester	2n Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	6
Groups	Professora Blanca Escardíbul Ferrà: Grup MATÍ. Professora Pilar Cos Sánchez: Grup TARDA.
Theoretical credits	0
Practical credits	0
Coordination	Responsable de l'assignatura: Blanca Escardíbul Ferrà
Office and hour of attention	Nom: Blanca Escardíbul Ferrà Telèfon desptax: +34 973 70 3326 Ubicació despatx: Despatx 1.21. Edifici Facultat de Dret i Economia Horari consulta: Divendres de 12.30 a 14 hores. També dies i hores a convenir. Amb independència de l'horari de tutories establert, sempre podeu enviar un correu electrònic per a quedar un dia a una hora determinada. Nom: Pilar Cos Sánchez Telèfon: +34 973 70 3320 Ubicació despatx: Despatx 1.06. Edifici Facultat de Dret i Economia Horari consulta: Divendres de 10:00 a 12:00 i de 18:30 a 19:30 hores. També dies i hores a convenir. Amb independència de l'horari de tutories establert, sempre podeu enviar un correu electrònic per a quedar un dia a una hora determinada.
Department	ADMINISTRACIÓ D'EMPRESES I GESTIÓ ECONÒMICA DELS RECURSOS NATURALS
Teaching load distribution between lectures and independent student work	(40%) 60 hores presencials (60%) 90 treball autònom
Modality	Presencial
Language	GRUP MATÍ: CATALÀ GRUP TARDA: CASTELLÀ
Degree	Degree in Business Administration and Management
Distribution of credits	(25h / ECTS) 150 hores (40%) 60 hores presencials (60%) 90 treball autònom
E-mail addresses	Blanca Escardíbul: efblanca@aegern.udl.cat Pilar Cos Sánchez: cspilar@aegern.udl.cat

Teaching staff

Professora Blanca Escardíbul Ferrà: Grup MATÍ. Professora Pilar Cos Sánchez: Grup Tarda

Subject's extra information

Suggestions

The course is designed so that students can go into depth in the field of Business Management Administration, based on knowledge they already have from the previous year in the Business Administration and Management degree course curriculum, and it prepares them to continue applying the knowledge they have acquired, especially in the Strategic Management subject they are scheduled to study the following semester. This programme of topics has been designed with five basic aspects: informing, instructing, influencing, involving and inspiring BAM students.

- Informing by providing concepts and examples from modern management.

- Instructing in terms of the way the ideas and models analysed are put into practice through case studies, making it possible to put the student in front of a specific situation that can be worked on.

- In this sense, the course includes modern trends to reinforce traditional SWOT assessments, with contributions to strategic management from the resources and capabilities perspective.

- Influencing students positively, providing a real meaning for the application of concepts and models in all types of job and business and in the different situations they could come across: planning and implementing them in their own business, leading a team towards achieving targets, negotiating with costumers and suppliers, selecting people and assessing the personnel in their teams of forming part of a team at a company which will assess them in their work.

- Involving the student as a thinker and as a person of action.

- Getting them to think about problems and solutiosn from the manager's point of view. - Getting them to think before acting, but also acting effectively and efficiently. - Management is a world of appropriate, adequate actions.

- This is not a world for passive people, but rather for those who involve themselves in positive targets.

- Getting students to understand that businesses pay managers to make decisions and act and that they must not be afraid to make mistakes in the learning in the management field, based on the concepts, models and ideas they will learn on this course, particularly the strategic area of businesses and organisations.

- Getting them to read different academic authors and prestigious managers on Management and Strategic Management in other sources and to carry on learning.

- To learn that Management, and particularly Strategic Management, is a personal journey lasting an entire professional career, particularly in the environment that surrounds us, which will compel us to undergo continuous training - lifelong learning.

The course as part of the academic plan

This subject forms part of the second year of the year of the Business Administration and Management degree course. The Business Organisation and Administration subject is undoubtedly a key part of the degree course of each Business Administration and Management student, as it helps them to gain some initial knowledge of what managers (administrators) do in modern organisations and how they can be helped by management (business administration) science, wether they are occupying a management post or wether they have to relate to them in some other way. This makes it a subject that tries to give the student an overall view of a business from the point of view of the manager and the management, particularly company strategy. This subject not only teaches theoretical knowledge, it is also practical, as business management training requires the student to have skills and knowledge to be able to act in the organisational sphere of the business. This means that assimilating theoretical knowledge and applying it in solving business problems are equally important. In this sense, the practical classes are a basic element these skills and knowledge, as they are the necessary bridge between theory and practice. RELATIONSHIP WITH OTHER SUBJECTS IN THE COURSE CURRICULUM This subject is constructed based on the knowledge obtained in other subjects in the degree course, particularly the Basic Business Management subject in the first year. The subjects: Financial Accounting, Marketing Management and Financial Management are also very important for students. PROJECTION IN PROFESISONAL FIELDS The subjects studied in this degree course are aimed at the management and administration

of organisations and businesses. Professional opportunities for students are largely focused on:

a) Business

b) National or local administration

c) Teaching

d) Liberal professions.

Learning objectives

Without translate

Competències i objectius

1. **Competències estratègiques de la Universitat de Lleida**

a. **Domini de les Tecnologies de la Informació i la Comunicació.**

Objectius

- Domini dels programes de software informàtic de gestió empresarial en planificació, organització, direcció i control, així com, els mitjans de comunicació, i de e-learning de que disposa la UdL.
- Utilitza recursos bàsics de TIC per seguir l' assignatura i presentar el treball Utilitza els recursos de les TIC'S per a accedir i treballar les lectures proposades pel professor Utilitza els recursos de les TIC'S per a accedir i treballar els exercicis proposats pel professor tant de manera individual com en equip.

a. **Correcció en l'expressió oral i escrita**

Objectius

- Explicar el concepte d'Administració d'empreses (Management), i descriure l'evolució en el temps del pensament en Management i diferenciar els plantejaments de les diferents escoles de pensament.

1. **Competències específiques de la titulació**
    a. **Identificar i interpretar els factors econòmics, ambientals, polítics, sociològics i tecnològics en els àmbits local, nacional i internacional i la seva repercussió sobre les organitzacions.**

Objectius

- Explicar la funció de planificació, descriure la Direcció estratègica de l'empresa, definir el Procés de planificació, i elaborar un Pla Estratègic de l'empresa.
- Expressar els diferents tipus d'estratègies en cada un del nivells estratègics de la organització, i justificar adequadament i de manera raonable d'acord amb la teoria les decisions de selecció de les millors estratègies en cada situació empresarial.
- Expressar la funció d'organització, la departamentalització i les diferents estructures organitzatives, i justificar adequadament les decisions de selecció del disseny organitzatiu assenyalant avantatges i desavantatges de cada una d'elles en una situació concreta.
- Expressar el procés de Gestió integral de les persones en les Organitzacions, analitzar el disseny de llocs de treballs, i com s'avaluen, realitzar avaluacions del rendiment i del potencial del personal, establir una política de remuneració, de formació, i desenvolupament en l'empresa.
- Expressar els conceptes de lideratge, motivació, comunicació, treball en equip, i cultura organitzacional, explicar les diferències entre les diverses formes de liderar i treballar en l'empresa i explicar els seus avantatges i inconvenients, així com expressar les implicacions.

a. **Aplicar tècniques instrumentals en l'anàlisi i solució de problemes empresarials i en la presa de decisions.**

Objectius

- Explicar el concepte de Decisió, enumerar la tipologia de les decisions que prenen els managers, analitzar els efectes de les diferents variables presents en cada decisió, i prendre decisions eficaces.
- Explicar la funció de planificació, descriure la Direcció estratègica de l'empresa, definir el Procés de planificació, i elaborar un Pla Estratègic de l'empresa.
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a. **Crear i dirigir una empresa atenent i responent als canvis de l'entorn en el qual opera.**

Objectius

- Explicar el concepte d'Administració d'empreses (Management), i descriure l'evolució en el temps del pensament en Management i diferenciar els plantejaments de les diferents escoles de pensament.
- Explicar el concepte de Decisió, enumerar la tipologia de les decisions que prenen els managers, analitzar els efectes de les diferents variables presents en cada decisió, i prendre decisions eficaces.
- Explicar la funció de planificació, descriure la Direcció estratègica de l'empresa, definir el Procés de planificació, i elaborar un Pla Estratègic de l'empresa.
- Expressar els diferents tipus d'estratègies en cada un del nivells estratègics de la organització, i justificar adequadament i de manera raonable d'acord amb la teoria les decisions de selecció de les millors estratègies en cada situació empresarial.
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- Expressar els conceptes de lideratge, motivació, comunicació, treball en equip, i cultura organitzacional, explicar les diferències entre les diverses formes de liderar i treballar en l'empresa i explicar els seus avantatges i inconvenients, així com expressar les implicacions.
- Descriure el procés del control de gestió i el seu propòsit, identificar els diferents tipus de control, i les fases del procés de control. Justificar les relacions entre el pla estratègic i control, explicar com es gestiona la informació en l'empresa, descriure la importància de la qualitat, la innovació i la productivitat en la competitivitat de l'empresa i com millorar-la. Descriure els models d'excel•lència i qualitat total. expressar els models del canvi organitzacional i com generar una cultura organitzacional de canvi.

1. **Competències transversals de la titulació**

a. **Ser capaç de treballar i d'aprendre de forma autònoma i simultàniament interactuar adequadament amb els altres, cooperant i col·laborant.**

Objectius

- Explicar el concepte d'Administració d'empreses (Management), i descriure l'evolució en el temps del pensament en Management i diferenciar els plantejaments de les diferents escoles de pensament.
- Explicar el concepte de Decisió, enumerar la tipologia de les decisions que prenen els managers, analitzar els

efectes de les diferents variables presents en cada decisió, i prendre decisions eficaces.
- Explicar la funció de planificació, descriure la Direcció estratègica de l'empresa, definir el Procés de planificació, i elaborar un Pla Estratègic de l'empresa.
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- Expressar els conceptes de lideratge, motivació, comunicació, treball en equip, i cultura organitzacional, explicar les diferències entre les diverses formes de liderar i treballar en l'empresa i explicar els seus avantatges i inconvenients, així com expressar les implicacions
- Descriure el procés del control de gestió i el seu propòsit, identificar els diferents tipus de control, i les fases del procés de control. Justificar les relacions entre el pla estratègic i control, explicar com es gestiona la informació en l'empresa, descriure la importància de la qualitat, la innovació i la productivitat en la competitivitat de l'empresa i com millorar-la. Descriure els models d'excel•lència i qualitat total. expressar els models del canvi organitzacional i com generar una cultura organitzacional de canvi.

a. **Capacitat de crítica i autocrítica.**

Objectius

- Explicar el concepte de Decisió, enumerar la tipologia de les decisions que prenen els managers, analitzar els efectes de les diferents variables presents en cada decisió, i prendre decisions eficaces.
- Explicar la funció de planificació, descriure la Direcció estratègica de l'empresa, definir el Procés de planificació, i elaborar un Pla Estratègic de l'empresa.
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- Expressar la funció d'organització, la departamentalització i les diferents estructures organitzatives, i justificar adequadament les decisions de selecció del disseny organitzatiu assenyalant avantatges i desavantatges de cada una d'elles en una situació concreta.
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- Expressar els conceptes de lideratge, motivació, comunicació, treball en equip, i cultura organitzacional, explicar les diferències entre les diverses formes de liderar i treballar en l'empresa i explicar els seus avantatges i inconvenients, així com expressar les implicacions
- Descriure el procés del control de gestió i el seu propòsit, identificar els diferents tipus de control, i les fases del procés de control. Justificar les relacions entre el pla estratègic i control, explicar com es gestiona la informació en l'empresa, descriure la importància de la qualitat, la innovació i la productivitat en la competitivitat de l'empresa i com millorar-la. Descriure els models d'excel•lència i qualitat total. expressar els models del canvi organitzacional i com generar una cultura organitzacional de canvi

a. **Treball en equip i lideratge.**

Objectius

- Explicar el concepte de Decisió, enumerar la tipologia de les decisions que prenen els managers, analitzar els efectes de les diferents variables presents en cada decisió, i prendre decisions eficaces
- Explicar la funció de planificació, descriure la Direcció estratègica de l'empresa, definir el Procés de planificació, i elaborar un Pla Estratègic de l'empresa
- Expressar el procés de Gestió integral de les persones en les Organitzacions, analitzar el disseny de llocs de treballs, i com s'avaluen, realitzar avaluacions del rendiment i del potencial del personal, establir una política de remuneració, de formació, i desenvolupament en l'empresa.

- Expressar els conceptes de lideratge, motivació, comunicació, treball en equip, i cultura organitzacional, explicar les diferències entre les diverses formes de liderar i treballar en l'empresa i explicar els seus avantatges i inconvenients, així com expressar les implicacions
- Descriure el procés del control de gestió i el seu propòsit, identificar els diferents tipus de control, i les fases del procés de control. Justificar les relacions entre el pla estratègic i control, explicar com es gestiona la informació en l'empresa, descriure la importància de la qualitat, la innovació i la productivitat en la competitivitat de l'empresa i com millorar-la. Descriure els models d'excel•lència i qualitat total. expressar els models del canvi organitzacional i com generar una cultura organitzacional de canvi

a. **Actuar sobre la base del rigor, el compromís personal i l'orientació a la qualitat.**

Objectius

- Explicar el concepte de Decisió, enumerar la tipologia de les decisions que prenen els managers, analitzar els efectes de les diferents variables presents en cada decisió, i prendre decisions
- Explicar la funció de planificació, descriure la Direcció estratègica de l'empresa, definir el Procés de planificació, i elaborar un Pla Estratègic de l'empresa
- Expressar els diferents tipus d'estratègies en cada un del nivells estratègics de la organització, i justificar adequadament i de manera raonable d'acord amb la teoria les decisions de selecció de les millors estratègies en cada situació empresarial
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- Expressar el procés de Gestió integral de les persones en les Organitzacions, analitzar el disseny de llocs de treballs, i com s'avaluen, realitzar avaluacions del rendiment i del potencial del personal, establir una política de remuneració, de formació, i desenvolupament en l'empresa
- Expressar els conceptes de lideratge, motivació, comunicació, treball en equip, i cultura organitzacional, explicar les diferències entre les diverses formes de liderar i treballar en l'empresa i explicar els seus avantatges i inconvenients, així com expressar les implicacions
- Descriure el procés del control de gestió i el seu propòsit, identificar els diferents tipus de control, i les fases del procés de control. Justificar les relacions entre el pla estratègic i control, explicar com es gestiona la informació en l'empresa, descriure la importància de la qualitat, la innovació i la productivitat en la competitivitat de l'empresa i com millorar-la. Descriure els models d'excel•lència i qualitat total. expressar els models del canvi organitzacional i com generar una cultura organitzacional de canvi

a. **Capacitat d'organitzar i planificar.**

Objectius

- Explicar la funció de planificació, descriure la Direcció estratègica de l'empresa, definir el Procés de planificació, i elaborar un Pla Estratègic de l'empresa
- Expressar els diferents tipus d'estratègies en cada un del nivells estratègics de la organització, i justificar adequadament i de manera raonable d'acord amb la teoria les decisions de selecció de les millors estratègies en cada situació empresarial
- Expressar la funció d'organització, la departamentalització i les diferents estructures organitzatives, i justificar adequadament les decisions de selecció del disseny organitzatiu assenyalant avantatges i desavantatges de cada una d'elles en una situació concreta
- Expressar el procés de Gestió integral de les persones en les Organitzacions, analitzar el disseny de llocs de treballs, i com s'avaluen, realitzar avaluacions del rendiment i del potencial del personal, establir una política de remuneració, de formació, i desenvolupament en l'empresa
- Expressar els conceptes de lideratge, motivació, comunicació, treball en equip, i cultura organitzacional, explicar les diferències entre les diverses formes de liderar i treballar en l'empresa i explicar els seus avantatges i inconvenients, així com expressar les implicacions
- Descriure el procés del control de gestió i el seu propòsit, identificar els diferents tipus de control, i les fases del procés de control. Justificar les relacions entre el pla estratègic i control, explicar com es gestiona la informació en l'empresa, descriure la importància de la qualitat, la innovació i la productivitat en la competitivitat de l'empresa i com millorar-la. Descriure els models d'excel•lència i qualitat total. expressar els models del canvi organitzacional i com generar una cultura organitzacional de canvi

a. **Capacitat d'anàlisi i de síntesi.**

Objectius

- Explicar el concepte d'Administració d'empreses (Management), i descriure l'evolució en el temps del pensament en Management i diferenciar els plantejaments de les diferents escoles de pensament
- Explicar la funció de planificació, descriure la Direcció estratègica de l'empresa, definir el Procés de planificació, i elaborar un Pla Estratègic de l'empresa
- Expressar els diferents tipus d'estratègies en cada un del nivells estratègics de la organització, i justificar adequadament i de manera raonable d'acord amb la teoria les decisions de selecció de les millors estratègies en cada situació empresarial
- Expressar la funció d'organització, la departamentalització i les diferents estructures organitzatives, i justificar adequadament les decisions de selecció del disseny organitzatiu assenyalant avantatges i desavantatges de cada una d'elles en una situació concreta
- Expressar el procés de Gestió integral de les persones en les Organitzacions, analitzar el disseny de llocs de treballs, i com s'avaluen, realitzar avaluacions del rendiment i del potencial del personal, establir una política de remuneració, de formació, i desenvolupament en l'empresa
- Expressar els conceptes de lideratge, motivació, comunicació, treball en equip, i cultura organitzacional, explicar les diferències entre les diverses formes de liderar i treballar en l'empresa i explicar els seus avantatges i inconvenients, així com expressar les implicacions
- Descriure el procés del control de gestió i el seu propòsit, identificar els diferents tipus de control, i les fases del procés de control. Justificar les relacions entre el pla estratègic i control, explicar com es gestiona la informació en l'empresa, descriure la importància de la qualitat, la innovació i la productivitat en la competitivitat de l'empresa i com millorar-la. Descriure els models d'excel•lència i qualitat total. expressar els models del canvi organitzacional i com generar una cultura organitzacional de canvi

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.

Goals

- To explain the concept of business management and to describe the development of management thought over time, differentiating the approaches of the different schools of thought.

- Master Information and Communication Technologies.

Goals

- Mastery of business management computer software programs in planning, organisation, management and monitoring, as well as the communications and e-learning media available at the UdL.
- Without Translate - Utilitza recursos bàsics de TIC per seguir l' assignatura i presentar el treball Utilitza els recursos de les TIC'S per a accedir i treballar les lectures proposades pel professor Utilitza els recursos de les TIC'S per a accedir i treballar els exercicis proposats pel professor tant de manera individual com en equip

Degree-specific competences

- Create and direct a business, which listens and responds to the changes of the environment in which it operates.

Goals

- To explain the concept of business management and to describe the development of management thought over time, differentiating the approaches of the different schools of thought.
- To explain the concept of decision, list the types of decisions made by managers, analyse the effects of the

different variables present in each decision and make effective decisions.
- To explain the function of planning, describe the strategic direction of the business, define the planning process and draw up a strategic plan for the business.
- To express the different types of strategies at each of the strategic levels of the organisation and properly and reasonably justify decisions to select the best strategies in each business in accordance with theory.
- To express the function of organisation, departmentalisation and the different organisational structures and properly justify organisational design selection decisions indicating the advantatges and disadvantatges for each of them in a specific situation.
- To express the process of integrated management of people in organisations, analyse job design and how jobs are assessed, carry out staff performance and potential asssessments, establish a remuneration, training and development policy at a company.
- To express the concepts of leadership, motivation, communication, teamwork and organisational culture, to explain the differences between different ways of leading and working in business and to explain their advantatges and disadvantatges, as well as expressing the implications.
- To describe the process of management monitoring and its purpose, to identify the different types of monitoring and the phases of the monitoring process. To explain the relationship between the strategic plan and monitoring, explain how information is managed in businesses, describe the importance of quality, innovation and productivity in business competitiveness and how to improve it. To describe the excellence and total quality models and to express models of organisational change and how generate an organisational culture of change.

- Apply instrumental techniques to the analysis and solution of business problems and to the taking of decisions.

Goals

- To explain the concept of decision, list the types of decisions made by managers, analyse the effects of the different variables present in each decision and make effective decisions.
- To explain the function of planning, describe the strategic direction of the business, define the planning process and draw up a strategic plan for the business.
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- To express the concepts of leadership, motivation, communication, teamwork and organisational culture, to explain the differences between different ways of leading and working in business and to explain their advantatges and disadvantatges, as well as expressing the implications.

- Identify and interpret the economical, environmental, political, sociological and technological factors in local, national and international ambits, and their repercusion upon organizations.

Goals

- To explain the function of planning, describe the strategic direction of the business, define the planning process and draw up a strategic plan for the business.
- To express the different types of strategies at each of the strategic levels of the organisation and properly and reasonably justify decisions to select the best strategies in each business in accordance with theory.
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advantatges and disadvantatges, as well as expressing the implications.

Degree-transversal competences

- Ability to criticise and be self-critical.

Goals

- To explain the concept of decision, list the types of decisions made by managers, analyse the effects of the different variables present in each decision and make effective decisions.
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- Ability to organise and plan.

Goals

- To explain the function of planning, describe the strategic direction of the business, define the planning process and draw up a strategic plan for the business.
- To express the different types of strategies at each of the strategic levels of the organisation and properly and reasonably justify decisions to select the best strategies in each business in accordance with theory.
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- Teamwork and leadership.

Goals

- To explain the concept of decision, list the types of decisions made by managers, analyse the effects of the different variables present in each decision and make effective decisions.
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- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.

Goals

- To explain the concept of business management and to describe the development of management thought over time, differentiating the approaches of the different schools of thought.
- To explain the concept of decision, list the types of decisions made by managers, analyse the effects of the different variables present in each decision and make effective decisions.
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- Ability to analyse and synthesise.

Goals

- To explain the concept of business management and to describe the development of management thought over time, differentiating the approaches of the different schools of thought.
- To explain the function of planning, describe the strategic direction of the business, define the planning process and draw up a strategic plan for the business.
- To express the different types of strategies at each of the strategic levels of the organisation and properly and reasonably justify decisions to select the best strategies in each business in accordance with theory.
- To express the function of organisation, departmentalisation and the different organisational structures and properly justify organisational design selection decisions indicating the advantatges and

disadvantatges for each of them in a specific situation.
- To express the process of integrated management of people in organisations, analyse job design and how jobs are assessed, carry out staff performance and potential asssessments, establish a remuneration, training and development policy at a company.
- To express the concepts of leadership, motivation, communication, teamwork and organisational culture, to explain the differences between different ways of leading and working in business and to explain their advantatges and disadvantatges, as well as expressing the implications.
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- Act in accordance with rigour, personal compromise and in a quality orientated way.

Goals

- To explain the concept of decision, list the types of decisions made by managers, analyse the effects of the different variables present in each decision and make effective decisions.
- To explain the function of planning, describe the strategic direction of the business, define the planning process and draw up a strategic plan for the business.
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Subject contents

Subject contents

BLOCK I Management and managers.

1. Basics of management.
2. Nature of companies and their strategic management.
3. Management and administration. Management and managers.
4. Management today and yesterday.
5. Business governance and the management function.
6. Management decisions in business.

BLOCK II Strategic management.

7. The general environment.
8. The specific environment.
9. Resources, capabilities and competences.
10. Strategy.
11. Strategic business management**.**

BLOCK III Organising and managing.

12. Organising.
13. Integrating staff.
14. Managing.

BLOCK IV Monitoring and change.

15. Monitoring and control.
16. Organisational dynamic.

DETAILED SCHEDULE

BLOCKI Management and managers.

1. Basics of management.

1.1	Do we know the true situation?
1.2	Organisations and managing them.
1.3	A business as a system and as an organisation.
1.4	Effectiveness and efficiency.
1.5	Management process and roles.
1.6	Case studies/Problem-solving.

2. Nature of businesses and their strategic management.

2.1	Basic concepts: values, vision, mission, objectives, strategy, policies.
2.2	Mission and objectives.
2.3	Development of the concept of strategy.

2.4	Strategy and strategic challenge.
2.5	Definition of business strategy. Development of the concept of strategy.
2.6	Strategy: content and process
2.7	Configuration of the business strategy development process.
2.8	Levels of business strategy.
2.9	Organisational culture.
2.10	Case studies/Problem-solving.

3. Management and administration. Management and managers.

3.1	The concepts of Management and Manager.
3.2	Management levels and management matrix.
3.3	Managers' capabilities and skills.
3.4	What leaders/managers really do.
3.5	How you can benefit from studying management and how you can manage your own professional career.
3.6	Case studies/Problem-solving.

4. Management today and yesterday.

4.1	The precursors.
4.2	Classical schools.
4.3	Human relations school.
4.4	Modern schools.
4.5	Current trends and issues.
4.6	Case studies/Problem-solving.

5. Business governance and the management function.

5.1	Business governance.
5.2	Organisational stakeholders.
5.3	Business ethics and social responsibility.
5.4	Strategic philanthropy.
5.5	Management tasks. Learning and knowledge management. Need to align structure, people and strategy.
5.6	Case studies/Problem-solving.

6. Business decisions.

6.1	Concept of decision and types of decisions.
6.2	The decision-making process.
6.3	The manager as decision-maker.
6.4	Features of management decisions.
6.5	Decision-making models.
6.6	Obstacles to effective decision-making.
6.7	Group decision-making.
6.8	Decision-making in an organisation.
6.9	Case studies/Problem-solving.

BLOCK II.- Strategic management.

7. The strategic planning process. The general environment.

7.1	The strategic planning process.
7.2	The environment.
7.3	Analysis of the general environment.
7.4	The territorial dimension. Porter’s Diamond Model. Industrial districts.
7.5	Scenarios.
7.6	Case studies/Problem-solving.

8. The strategic planning process. The specific environment.

8.1	Analysis of the specific environment.
8.2	Sector analysis. Five-force model.
8.3	Strategic groups.
8.4	Case studies/Problem-solving.

9. The strategic planning process. Resources, capabilities and competences.

8.1	Resources, capabilities and competences in strategic management.

8.2	Competences and central competences.
8.3	Value chain analysis. Benchmarking.
8.4	SWOT analysis. Key Success Factors (KSF).
8.5	Assessing resources, capabilities and competences in strategic management.
8.6	Strategic implications.
8.8	Case studies/Problem-solving.

10.Strategy.

10.1	Nature and sources of competitive advantage.
10.2	Business strategy. Competitive advantage and key success factors in different contexts.
10.3	Corporate strategy.
10.4	Strategic management of diversified corporations.
10.5	Functional strategy.
10.6	Development of functional strategies.
10.7	Case studies/Problem-solving.

11.Strategic business management.

11.1	Background to strategic management.
11.2	Concept of strategic management.
11.3	Operational management and strategic management.
11.4	The Strategic Decision model.
11.5	Methodological aspects in strategic management.
11.6	Strategic management process.
11.7	Strategic management in the global environment.
11.8	Strategic Plan: content and elaboration process.
11.9	Case studies/Problem-solving.

BLOCK III .- Organising and managing.

12.Organising.

12.1	The organising function.
12.2	The Mintzberg model.

12.3	Organisational structure.
12.4	The organisational process.
12.5	Division of labour and vertical relationships.
12.6	Departmentalisation and organisational structures.
12.7	Organisational integration.
12.8	Symptoms of defective organisation.
12.9	Case studies/Problem-solving.

13.Integrating staff.

13.1	Strategic management of people in organisations.
13.2	The process of integrated management of people in organisations.
13.3	Management competences.
13.4	Competences in the future.
13.5	The model in practice.
13.6	Case studies/Problem-solving.

14.Managing.

14.1	Leadership.
14.2	Motivating behaviour.
14.3	Communication.
14.4	Teamwork.
14.5	Organisational culture.
14.6	Case studies/Problem-solving.

BLOCK IV .- Monitoring, control and change.

15.Monitoring and control.

15.1	Meaning of management control.
15.2	Budgetary control.
15.3	Control tools and techniques.
15.4	Financial control.
15.5	The Balanced Scorecard (BSC).

15.6	Control by feedback and prospective control.
15.7	Case studies/Problem-solving.

16.Organisational dynamic.

16.1	Managing innovation.
16.2	Managing change.
16.3	Forces of change.
16.4	Planned change.
16.5	Resistance to change.
16.6	Models for managing organisational change.
16.7	Organisational culture of change.
16.8	Case studies/Problem-solving.

Methodology

Una bona forma d'enfocar l'estudi d'aquesta assignatura és la següent:

- Seguir les explicacions realitzades pel professor i anar configurant els vostres **apunts**. Es recomana que us llegiu cada setmana els vostres apunts i us aneu fent resums per tal de fer èmfasi en els conceptes fonamentals que s'han de comprendre i retenir.
- Al finalitzar l'estudi dels temes, es recomana fer els corresponents **exercicis** proposats. Alguns exercicis seran resolts per la professora i d'altres els treballareu i resoldreu vosaltres per tal d'assolir els conceptes explicats a classe.
- Relacionar els continguts teòrics que s'han après amb el món real. Per això, és recomanable realitzar les activitats proposades.

En qualsevol cas, es aconsellable que realitzeu **consultes bibliogràfiques** amb l'objectiu d'acostumar-vos a fer front a la resolució de problemes de forma individual, així com que realitzeu diverses recerques a través de la navegació a Internet, tot i que sempre tindreu a la vostre disposició al professor per a qualsevol dubte, consulta o aclariment.

En resum:

a. Classes teòriques i pràctiques.
b. Exercicis resolts i proposats per a la seva resolució per part de l'alumne. Així com l'estudi de casos tant d'empreses nacionals com estrangeres.
c. El domini de bases de dades, pàgines web i qualsevol recerca d'Internet que ens ajudi a aprendre a buscar informació de les empreses.
d. Activitats realitzades pels alumnes a l'aula sobre el tema que s'estigui tractant a cada moment.
e. La majoria de les activitats i les proves escrites es realitzaran i lliuraran a classe. Per tant, és important l'assistència a classe.
f. Heu d'entrar a l'Espai Virtual Sakai UdL d'aquesta assignatura setmanalment. En aquest espai trobareu: els enunciats dels exercicis, les solucions, avisos que us farà la professora, notes, etc.

Development plan

Dates (Setmanes)	Descripció	Activitat Presencial	HTP (2) (Hores)	Activitat treball autònom	HTNP (3) (Hores)
1	**Dia 12 de febrer. Primer dia de classe.** Presentació de l'assignatura	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	2.00	Llegir la guia d'aquesta assignatura	2.50
2.	Tema 1.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica	2.00	Comprensió dels apunts i resolució d'exercicis.	4.50
3.	Tema 1.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	4	Comprensió dels apunts i resolució d'exercicis.	4.50
4.	Tema 2.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	4	Comprensió dels apunts i resolució d'exercicis.	4.50
5.	Tema 3.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	4	Comprensió dels apunts i resolució d'exercicis.	4.50
6.	Tema 3.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica	4	Comprensió dels apunts i resolució d'exercicis.	4.50
7.	Tema 4.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	4	Comprensió dels apunts i resolució d'exercicis. .	4.50
8.	Tema 5.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	4	Resolució d'exercicis.	4.50
9.	**Examen 1. Temes: 1, 2, 3. Dia: 10 d'abril de 2014. Valor: 22%. Tipus d'examen: tipus test. Aules: 3.01 EP 3.02 EP**	**Aquesta prova es realitzarà el dia 10 d'abril de 2014. Valor: 22% de la nota final d'aquesta assignatura.**	2	**Examen 1. Valor: 22%. Tipus d'examen: tipus test.**	4.50
10.	Tema 5.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	4	Comprensió dels apunts i resolució d'exercicis.	4.50
11.	Tema 6. **El divendres dia 1 de maig: Festa del treball**	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	4	Comprensió dels apunts i resolució d'exercicis.	4.50

Dates (Setmanes)	Descripció	Activitat Presencial	HTP (2) (Hores)	Activitat treball autònom	HTNP (3) (Hores)
12.	Tema 6.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	4	Comprensió dels apunts i resolució d'exercicis. **Exercici 1.** **Valor: 12% nota final.** **Entra per examen de l'exercici 1 els temes 1, 2, 3, 4.** **Divendres dia 9 de maig.**	4.50
13.	Tema 7.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	4	Comprensió dels apunts i resolució d'exercicis.	4.50
14.	**Examen 2.** **Temes 4, 5, 6 (fins el 6.3 inclòs).** **Dia: 23 de maig.** **Valor: 25%.** **Tipus d'examen: tipus test.**	**Aquesta prova es realitzarà el dia 23 de maig de 2014.** **Valor: 25% de la nota final d'aquesta assignatura.**	2	Comprensió dels apunts i resolució d'exercicis.	4.50
15.	Tema 7.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica	2	Comprensió dels apunts i resolució d'exercicis.	4.50
16.	Tema 8.	Lliçó magistral i problemes resolts tant a classe com a l'aula d'informàtica.	4	**Exercici 2.** **Valor: 12% nota final.** **Entra per examen de l'exercici 2 els temes 5, 6, 7.** **Dia: 6 de juny de 2014.**	4.50
17.	**Examen 3.** **Temes 6.4, 7, 8.** **Dia: 18 de juny.** **Valor: 29%.** **Tipus d'examen: tipus test.**	**Aquesta prova es realitzarà el dia 18 de juny de 2014.** **Valor: 29% de la nota final d'aquesta assignatura.**	2.50	**Examen 3.** **Valor: 29%.**	9.50
18.	Revisió examen	Revisió examen	2	Revisió examen	4.50
19.	Tutories	Consulta al meu despatx.	1.15		0.00
TOTAL		**60**			**90**

Evaluation

L'assignatura **d'Organització i Administració D'empreses** serà avaluada mitjançant **avaluació contínua.**

L'avaluació contínua consisteix en la realització per part de l'alumne de 6 activitats: 3 proves escrites i els lliuraments de 2 exercicis o casos d'empreses sol·licitats a classe.

Per tant, per superar aquesta assignatura heu de tenir present:

a) La realització de 3 exàmens que avaluaran el contingut del programa. El primer examen serà dels temes: des de l'1 fins el 3 (ambdós inclosos). El segon examen dels temes 4, 5 i 6.3. I el tercer examen dels temes: 6.4, 7 i 8.

Cada examen i exercici avaluable té un pes específic: primer examen: 22% en la nota final, segon un 25% i el tercer un 29%. Els dos exercicis que recolliré valen un 12%.

b) La nota final es calcula de la següent manera:

NOTA FINAL DE L'ASSIGNATURA: EX1 x 22% + **EX2** x 25% + **EX3** x 29% + Exercici 1 x 12% + Exercici 2 x 12%.

Avís important

1. L'alumne que no es presenti a alguna de les activitats tindrà d'aquella activitat no presentada la qualificació de zero. Se li faran les ponderacions sobre les notes que s'ha presentat posant-li un zero a l'activitat o activitats que no es presenti.
2. No s'ajornen les dates de les proves escrites. Cada prova escrita té un dia i una hora de realització. En el cas dels exàmens us avisaré amb anticipació i per tant no es poden realitzar ni un altre dia ni una altra hora. Heu de venir a classe.
3. La prova o activitat que no presenteu tindrà una qualificació de zero.
4. No hi haurà recuperacions ni exàmens addicionals per recuperar els suspens d'una prova en concret.
5. No hi ha examen final de l'assignatura. Per aprovar us heu de presentar a les 3 proves d'avaluació contínua i lliurar-me els 2 exercicis.
6. L'alumne que només faci 2 o menys proves d'avaluació contínua tindrà com a nota final d'aquesta assignatura la qualificació de NO PRESENTAT. Sigui quina sigui la representació en percentatge d'aquestes dues o menys proves.
7. L'alumne que faci 3 o més proves d'avaluació contínua tindrà com a nota final d'aquesta assignatura el que li surti de les 3 o més proves presentades. Sigui quina sigui la representació en percentatge d'aquestes dues o menys proves.

Altres aspectes a tenir present a l'hora de fer les proves escrites:

- A les proves escrites només es podrà portar el bolígraf.
- No es poden portar ni mòbils ni els apunts o qualsevol material amb els continguts del programa.
- Qualsevol persona que copiï pel sistema que sigui obtindrà directament la qualificació de suspens.
- **Nota final de l'assignatura:**

NOTA FINAL DE L'ASSIGNATURA: EX1 x 22% + **EX2** x 25% + **EX3** x 29% + Exercici 1 x 12% + Exercici 2 x 12%.

Objectius	Activitats d'Avaluació Criteris	% sobre la nota final d'aquesta assignatura	Dates	O/V (1)	I/G (2)	Observacions
Capacitat d'anàlisi i síntesi. Ser capaç de treballar i d'aprendre de forma autònoma i, simultàniament, interactuar adequadament amb la resta a través de la cooperació i col·laboració.	**NOTA 1. Examen 1.** **Temes: 1, 2, 3.** **Dia: 10 d'abril de 2014.** **Valor: 22%.** **Tipus d'examen: tipus test.** **Aules:** **3.01 EP** **3.02 EP**	22%	Aquesta prova es realitzarà **el dia 10 d'abril de 2014.**	O	I	Si l'alumne no es presenta a la prova escrita i per tant no la realitza llavors obtindrà la qualificació de zero. No s'ajornen les dates de les proves escrites
Capacitat d'anàlisi i síntesi. Capacitat de crítica i autocrítica. Ser capaç de treballar i d'aprendre de forma autònoma i, simultàniament, interactuar adequadament amb la resta a través de la cooperació i col·laboració.	**NOTA 2. Examen 2.** **Temes: 4, 5 i tema 6 fins l'apartat 6.3 (inclòs).** **Dia: 23 de maig de 2014.** **Valor: 25%.**	25%	Aquesta prova es realitzarà **el dia 23 de maig de 2014.**	O	I	Si l'alumne no es presenta obtindrà la qualificació de zero. No s'ajornen les dates de les proves escrites
Capacitat d'anàlisi i síntesi. Capacitat de crítica i autocrítica. Ser capaç de treballar i d'aprendre de forma autònoma i, simultàniament, interactuar adequadament amb la resta a través de la cooperació i col·laboració.	**NOTA 3. Examen 3.** **Temes: 6.4, 7 i 8.** **Dia: 18 de juny de 2014.** **Valor: 29%.** **Tipus d'examen: tipus test.** **Aules:** **3.01 EP** **3.02 EP**	29%	Aquesta prova es realitzarà **el dia 18 de juny de 2014.**			Si l'alumne no el presenta obtindrà la qualificació de zero. No s'ajornen les dates de les proves escrites

Objectius	Activitats d'Avaluació Criteris	% sobre la nota final d'aquesta assignatura	Dates	O/V (1)	I/G (2)	Observacions
Capacitat de crítica i autocrítica. Aplicar tècniques instrumentals en l'anàlisi i solució de problemes empresarials i en la presa de decisions. Domini de les TIC. Identificar i interpretar els factors econòmics, ambientals, ètics, legals, polítics, sociològics i tecnològics a nivell local, nacional i internacional i la seva repercussió sobre les organitzacions.	**NOTA 4. Exercici avaluable 1.** Sempre els realitzarem presencialment a l'aula d'informàtica. **NOTA 5. Exercici avaluable 2.** Sempre els realitzarem presencialment a l'aula d'informàtica.	Exercici 1: 12% Exercici 2: 12%.	**Dia 9 de maig. Entren les pràctiques realitzades dels temes 1, 2 ,3 i 4.** **Dia 6 de juny. Entren les pràctiques realitzades dels temes 5, 6, 7.**	O	I	Si l'alumne no es presenta obtindrà la qualificació de zero. No s'ajornen les dates de les proves escrites
TOTAL		**100%**				

Bibliography

Recommended bibliography

BASIC TEXTBOOKS

Title: Administración (8th Edition)

Author: Thomas S. Bateman

Publisher: McGraw-Hill

2009

Title: Administración: de Empresas

Author: Esteban Fernández Sánchez

Publisher: Paraninfo

2010

Title: Administración contemporánea (6th Edition)

Author: Jones, Gareth R

Publisher: McGraw-Hill

2010

Title: Administración (10th Edition)

Author: Stephen Robbins / Mary Coulter

Publisher: Pearson

2009

ADDITIONAL BIBLIOGRAPHY: Management.

Title: Introducción a la teoría general de la Administración (7th Edition)

Author: Idialberto Chiavenato

Publisher: McGraw-Hill

2005

Title: Teoría Organizacional: Diseño y Cambio en las Organizaciones (5th Edition)

Author: Gareth R. Jones

Publisher: Pearson

2008

Title: Teoría y Diseño Organizacional (9th Edition)

Author: Daft, Richard L.

Publisher: Paraninfo

2010

Title: La experiencia del Liderazgo (3rd Edition)

Author: Daft, Richard L.

Publisher: McGraw-Hill

2006

Title: Manual de la Empresa Responsable y Sostenible

Author: Aldo Olcese, M. A. Rodríguez, Juan Alfaro

Publisher: McGraw-Hill

2008

Title: Administración: un enfoque de Competencias (10th edition)

Author: Hellriegel / Jackson / Slocum

Publisher: Thomson

2008

Title: Administración de proyectos

Author: Francisco Rivera Martínez / Gisel Hernández Chávez

Publisher: Pearson

2010

ADDITIONALBIBLIOGRAPHY: Strategic Area of Business and Corporate Governance.

Title: Dirección Estratégica de la Innovación Tecnològica (2nd edition)

Author: Mellissa A. Schlling

Publisher: McGraw-Hill

2009

Title: En busca del Equilibrio. Consejos de Administración y Alta Dirección en el Gobierno de la Empresa.

Author: Jordi Canals

Publisher: Pearson. Prentice Hall.

2008

Title: Gestión de la Empresa Familiar.

Author: Manuel Ruiz (ed.).

Publisher: McGraw Hill. ISBN: 978-84-481-6600-7

2007

Title: La Dirección Estratégica de la Empresa. Teoría y Aplicaciones.

Author: L. A. Guerras. J. E. Navas

Publisher: Thomson Civitas.

2007

Title: Administración estratégica y Política de Negocios.

Author: T. L. Wheelen. J. D. Hunger

Publisher: Pearson Prentice Hall.

2007

Title: Dirección estratégica: Nuevas perspectivas teóricas

Author: Eduardo Bueno Campos. Patricio Morcillo. María Paz Salmador

Publisher: Civitas

2006

Title: Dirección estratégica: conceptos, técnicas y aplicaciones. (5th edition)

Author: Robert M. Grant

Publisher: Civitas

2006

Title: Dirección estratégica: (7th edition)

Author: Johnson / Scholes

Publisher: Prentice Hall

2006

Title: La elaboración del plan estratégico y su implantación a través del cuadro de mando integral

Author: Daniel Martínez Pedrós and Artemio Milla Gutiérrez

Publisher: Díaz de Santos

2005

ADDITIONAL BIBLIOGRAPHY from the UdL publications service

Title: L'empresa en la societat del coneixement.

Author: Manuel Ruiz (ed.).

Publisher: Edicions de la Universitat de Lleida. ISBN: 84-8409-157-0

2003

Title: Noves tendències en administració d'empreses davant el canvi de segle. Perspectives empresarials a Lleida.

Author: Manuel Ruiz (ed.).

Publisher: Edicions de la Universitat de Lleida. ISBN: 84-8409-065-5..

2000

Title: Estudi estratègic de bases per a la dinamització i el desenvolupament d'Ivars de Noguera: Àrea de Boix.

Author: Manuel Ruiz (ed.).

Publisher: Edicions de la Universitat de Lleida. ISBN: 84-8409-032-9.

2000

Title: Els reptes per a les Empreses davant del tercer mil·lenni. La resposta als reptes de interconnexió, globalització, canvi, moneda única, i territori.

Author: Manuel Ruiz (ed.).

Publisher: Edicions de la Universitat de Lleida. ISBN: 84-89727-64-3

1999

Title: Els reptes per a les Empreses davant del tercer mil·lenni. La resposta als reptes de interconnexió, globalització, canvi, moneda única, i territori.

Author: Manuel Ruiz (ed.).

Publisher: Edicions de la Universitat de Lleida. ISBN: 84-89727-64-3

1999

Title: Desenvolupament empresarial a Lleida: cooperació, innovació, infraestructura, finançament, Promoció.

Author: Manuel Ruiz (ed.).

Publisher: Edicions de la Universitat de Lleida. ISBN: 84-89727-89-9

1998

DEGREE CURRICULUM

COST ACCOUNTING

Academic year 2015-16

Subject's general information

Subject name	Cost Accounting
Code	101316
Semester	2n Q Avaluación Continuada
Typology	Compulsory
ECTS credits	6
Groups	6
Theoretical credits	2.4
Practical credits	3.6
Office and hour of attention	Anna Tena Tarruella Tuesday 11.30 to 13.30 and Friday 10,30 to 12.30 Jordi Vilalta Miquel tuesday 15.30 to 18.30h
Department	Administración de Empresas y Gestión Económica de los Recursos Naturales
Teaching load distribution between lectures and independent student work	40% presencial y 60% trabajo autònomo
Modality	Presencial
Language	Catalan
Degree	Degree in Business Administration and Management
Distribution of credits	Anna Tena Tarruella 14.4 Jordi Vilalta Miquel 6
E-mail addresses	tenat@aegern.udl.cat jvilalta@aegern.udl.cat

Teaching staff

Anna Tena Tarruella Jordi Vilalta Miquel

Subject's extra information

This is a subject where one topic links to another, so it is strongly recommended not to have on to a new topic without having understood and worked through the previous one.

This subject is important in the sense that, once they have completed their degrees, students need to have basic knowledge of cost accounting in order to work for businesses applying this knowledge. It is essential to get the most from this course in order to understand other subjects directly related to it.

Learning objectives

See competences

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.

Goals

- To use accounting language properly.
- To describe basic concepts of cost accounting.
- To summarise the content of a text or article.

- Master Information and Communication Technologies.
- Respect of the essential rights of equality between men and women, the promotion of Human Rights and of the values of a peace culture and democracy.
- Master a foreign language.

Degree-specific competences

- Apply instrumental techniques to the analysis and solution of business problems and to the taking of decisions.

Goals

- To resolve the circumstances following the correct order.
- To determine the cost of materials.
- To express the different methods for determining results.
- To calculate the analytical esult corresponding to each method.
- To describe the cost calculation procedure.
- To draw up the division of costs between activity centres.
- To calculate the costs of finished products.
- To draw up a cost distribution by activities.
- To detect different cost accounting problems.

- Elaborate, interpret and audit the economical-financial information of entities and individuals, and provide them with assessment.

Goals

- To differenciate between cost accounting and general accounting.
- To describe the basic concepts of cost accounting.
- To identify business's costs.
- To organise business costs.
- To classify business costs.
- To determine the cost of materials.
- To identify the different costs making up staff costs.
- To identify the other indirect costs.
- To draw up the division of costs between activity centres.
- To draw up a cost distribution by activities.
- To detect different cost accounting problems.
- To interpret the analytical result corresponding to each method.

Degree-transversal competences

- Ability to criticise and be self-critical.

Goals

- To detect errors and suggest how to correct them.
- To classify business costs.
- To interpret the analytical result corresponding to each method.

- Ability to organise and plan.

Goals

- To resolve circumstances following the correct order.
- To identify a business's costs.
- To organise business costs.
- To classify business costs.
- To determine the cost of materials.
- To identify the different costs making up staff costs.
- To identify the other indirect costs.
- To express the different methods for determining results.

- Teamwork and leadership.

Goals

- To resolve circumstances following the correct order.

- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.

Goals

- To summarise the content of a text or article.
- To detect errors and suggest how to correct them.
- To resolve circumstances following the correct order.
- To use accounting language properly.

- Ability to analyse and synthesise.

Goals

- To distinguish key concepts determined in each topic.
- To summarise the content of a text or article.
- To identify business's costs.
- To organise business costs.
- To classify business costs.
- To determine the cost of materials.
- To identify the different costs making up staff costs.
- To identify the other indirect costs.
- To interpret the analytical result corresponding to each method.
- To describe the cost calculation procedure.
- To draw up the division of costs between activity centres.
- To draw up a cost distribution by activities.
- To detect different cost accounting problems.

- Act in accordance with rigour, personal compromise and in a quality orientated way.

Goals

- To summarise the content of a text or article.
- To detect errors and suggest how to correct them.
- To resolve circumstances following the correct order.
- To describe cost calculation procedure.

Subject contents

TOPIC 1: CONCEPT AND OBJECTIVES OF COST ACCOUNTING

1.1. Concept of Cost Accounting

1.2. Objectives of Cost Accounting

1.3. Distinguishing between Analytical Accounting and General Accounting

1.4. Basic concepts in Cost Accounting

TOPIC 2: TYPES OF COST

2.1. External costs- Calculated costs

2.2. Production costs- Distribution costs- Administration costs

2.3. Direct costs - Indirect costs

2.4. Historical costs - Standard costs

2.5. Controllable costs - Uncontrollable costs

2.6. Fixed costs - Variable costs

TOPIC 3: FACTOR COSTS

3.1 Material costs: control and stock valuation criteria

3.2 Labour costs: objectives of calculation and incorporable costs

3.3 Indirect manufacturing costs: principal incorporable costs

TOPIC 4: METHODS FOR DETERMINING COSTS AND RESULTS

4.1. Full-Cost

4.2. Functional

4.3. Direct-cost

4.4. Rationalattribution: sub-activity costs

TOPIC 5: COST CENTRES

5.1. Dividing costs among centres

5.2. Principal centres and auxiliary centres: subdivision

TOPIC 6: COST BEARERS

6.1.Attribution of costs to products: work units

6.2.Accounting treatment of products being manufactured

TOPIC 7: THE ACTIVITY-BASED COST SYSTEM

7.1.Description of the ABC model

7.2.Concept of activity

7.3.Cost inductors

TOPIC 8: SPECIFIC COST CALCULATION PROBLEMS

8.1.Stock differences

8.2.Costs of by-products, waste and defective products

TOPIC 9: DECISION-MAKING COSTS

9.1.Information analysis

9.2.Cost-Volume-Benefit analysis

Development plan

Setmana	Data	Activitat	Agrupació	Hores	Activitat avaluació
1	11-2	Presentació assignatura/Exposició Tema 1	G.G.	2,15	
	12/14-2	Casos Tema 1	G.M.	1,15	
2	18-2	Exposició Tema 2	G.G.	2,15	
	19-21-2	Casos Tema 1 i 2	G.M.	1,15	
3	25-2	Exposició i casos Tema 2	G.G.	2,15	
	26/28-2	Preparació de preguntes tipus test Temes 1 i 2	G.M.	1,15	5% Grupal/Voluntària
4	4-3	Exposició Tema 3	G.G.	2,15	
	5/7-3	Casos Tema 3	G.M.	1,15	0%
5	11-3	Exposició Tema 4	G.G.	2,15	
	12/14-3	Casos Tema 3	G.M.	1,15	
6	18-3	Exposició Tema 5	G.G.	2,15	
	19/21-3	Casos Tema 4	G.M.	1,15	
7	25-3	Casos Tema 4	G.G.	2,15	
	26/28-3	Casos Tema 5	G.M.	1,15	
8	1-4	Casos Tema 5	G.G.	2,15	
	2/4-4	Casos Tema 5	G.M.	1,15	
9		Examen teòric-pràctic. Temes 1a 5			20% Individual/Voluntària
10	22-4	Resolució prova	G.G.	2,15	
	23/25-4	Explicació treball	G.M.	1,15	
11	29-4	Exposició Tema 6	G.G.	2,15	
	30-4	Casos Tema 6	G.M.	1,15	
12	6-5	Exposició Tema 7	G.G.	2,15	
	7/9-5	Aplicació informàtica per a la resolució del treball	G.M.	1,15	
13	13-5	Casos Tema 7	G.G.	2,15	
	14/16-5	Aplicació informàtica per a la resolució del treball	G.M.	1,15	
14	20-5	Casos Tema 7	G.G.	2,15	

	21/23-5	Comentari i debat d'un article		1,15	5% Individual/Voluntària
15	27-5	Examen teòric. Temes 1a 7	G.G.		25% Individual/Voluntària
	28/30-5	Aplicació informàtica per a la resolució del treball	G.M.	1,15	
16	3-6	Entrega i exposició del treball	G.M.		
	4/6-6	"	G.M.		20% Individual/Voluntària
17-19		Examen pràctic. Temes 1a 7	G.G.		25% Individual/Voluntària

Evaluation

Objectius	Activitats d'Avaluació Criteris	%	Dates	O/V	I/G
Tema 1, 2	Preparació de preguntes tipus test. T 1, 2	5	Setmana 3(GM)	V	G
Tema 1a 5	Exàmen teòrico-pràctic	20	Setmana 9	V	I
	Participació i debat d'un article	5	Setmana 14	V	I
Temes 1a 7	Exàmen teòric	25	Setmana 15	O	I
	Entrega de treball	20	Setmana 16	O	G
Temes 1a 7	Exàmen pràctic	25	Setmana 19	O	I

Bibliography

Recommended bibliography

Resources on the Virtual Campus:

Classes are complemented with support material for the subject consisting of exercises and case studies.

BASIC BIBLIOGRAPHY

- ALVAREZ LOPEZ, J: *Contabilidad analítica de explotación.* Ed. Donostiarra, San Sebastian, latest edition.
- AMAT, O.; SOLDEVILA, P.: *Comptabilitat i Gestió de Costos*. Gestió 2000, Barcelona 1998.
- BLANCO IBARRA, F.: *Curso de contabilidad analítica.* Deusto, Bilbao 1990.
- MALLO, C. ; JIMÉNEZ, M.A.: *Contabilidad de costes*. Ed. Pirámide, Madrid 1997.
- MALLO, C. ; MIR, F. and OTHERS: *Contabilidad de gestión (contabilidad de gestión)*. Col. ACODI-Ariel Economía, 1994.
- MARTIN PEÑA, F. and ROS RIERA, J.: *Costes Contabilidad y gestión.* Ed. Centro de Estudios Financieros, 2003.
- RIPOLL FELIU, V.; ALVAREZ LÓPEZ, J. and OTHERS: *Introducción a la contabilidad de gestión. Cálculo de costes*. McGraw-Hill, Madrid, 1994.
- SÁEZ TORRECILLA, A.; FERNÁNDEZ FERNÁNDEZ, A.; GUTIÉRREZ DÍAZ, G.: *Contabilidad de costes y Contabilidad deGestión*. Ed. McGraw-Hill, Madrid 1993.

PRACTICAL BIBLIOGRAPHY

- AMAT, O.; SOLDEVILA, P. and AGUILÀ, S *.:Ejercicios resueltos de contabilidad de costes*. Ed. Gestión 2000. Barcelona, 1999.
- BLANCO IBARRA, F.: *Ejercicios resueltos de Contabilidad Analítica*. Ed. Deusto. Bilbao 1991, 2nd edition.
- LÓPEZ, E.; MENDAÑA, C.; RODRÍGUEZ M.A.: *Ejercicios de Contabilidad de Costes y de Gestión*. Ed. Pirámide. Madrid 1998.
- ROCAFORT, A.; FERRER, R.: *Introducción práctica a la contabilidad de costes empresariales, Supuestos resueltos*. Ed. Miquel, Barcelona 1988.
- SAEZ, A.; GUTIERREZ, G. and MARTIN, J.: Supuestos de contabilidad de costes. Ed. Tebar Flores. Madrid, 1985.
- TEJADA PONCE, A.and others: *Contabilidad de Costes.* Supuestos prácticos. Ed. Prentice Hall, 2004

DEGREE CURRICULUM

FINANCIAL AND TAX LAW

Coordination: Dra. Lluisa Ochoa Trepat

Academic year 2015-16

Subject's general information

Subject name	Financial and Tax Law
Code	101319
Semester	2n Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	6
Theoretical credits	0
Practical credits	0
Coordination	Dra. Lluisa Ochoa Trepat
Office and hour of attention	Dra. Lluisa Ochoa: dilluns de 17 a 19 hores despatx 2.18
Department	Dret Públic
Teaching load distribution between lectures and independent student work	40% presencial (60 hores) 60% treball autonom (90 hores)
Modality	Presencial
Language	Torn mati: català - Dra. Montserrat Solanres Torn tarda: castella - Dra. Lluisa Ochoa
Degree	Degree in Business Administration and Management
Distribution of credits	M. Montserrat Solanes Giralt 10.2 M. Lluisa Ochoa Trepat 10.2
E-mail addresses	msolanes@dpub.udl.cat lis@dpub.udl.cat

Teaching staff

M. Montserrat Solanes Giralt M. Lluisa Ochoa Trepat

Subject's extra information

The course as part of the academic plan

The subject is studied in the 2nd quadrimester of the 2nd year of the BAM degree course and it is the starting point and basis for knowledge which is complemented with the Tax Planning subject in the third year. Both of them help to achieve a complete view of the Spanish tax system as it affects businesses.

Learning objectives

1) Buscar les fonts del Dret Financer I Tributari, localitzar-les i aplicar les vigents en cada moment. (CEU1 CEU3 CB6 CES2 CES4) 2) Recordar, exposar, descriure els concepts bàsics dels tributs, per utilitzar-los correctament en les autoliquidacions tributàries. (CEU1, CEU3, CB1, CB2, CB5, CB6, CES2, CES4) 3) Distingir els diferents tipus de tributs(CEU1, CEU3, CB1, CB2, CB5, CB6, CES2, CES4) 4) Identificar els fets imposables, exempcions i no subjecció dels principals impostos que afecten a les empreses. (CEU1, CEU3, CB1, CB2, CB5, CB6, CES2, CES4) 5) Interpretar les normes tributaries per qualificar els fets, actes i negocis jurídics més freqüents en el món empresarial. (CEU1, CEU3, CB1, CB2, CB5, CB6, CES2, CES4) 6) Reconèixer els diferents obligats tributaris(CEU1, CEU3, CB1, CB2, CB5, CB6, CES2, CES4) 7) Diferenciar els mètodes de determinació de la base imposable(CEU1, CEU3, CB1, CB2, CB5, CB6, CES2, CES4) 8) Aplicar els tipus de gravamen per determinar la quota tributària. (CEU1, CEU3, CB1, CB2, CB5, CB6, CES2, CES4) 9) Analitzar el deute tributari i les formes d'extinció del mateix, especialment el pagament i la prescripció. (CEU1, CEU3, CB1, CB2, CB5, CB6, CES2, CES4)

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.

Goals

- 1) To search for the financial and tax law sources, locate them and apply the relevant ones at all times. 2) To remember, explain and describe basic taxation concepts in order to use them properly on tax returns. 3) To distinguish the different types of taxes. 4) To identify taxable matters exemptions and matters not included in the principal taxes affecting businesses. 5) To interpret tax regulations to classify the most common matters, acts and legal actions in the business world. 6) To recognise the different parties liable for tax. 7) To differentiate the methods of determining the taxable sum. 8) To apply the tax rate to determine the tax due. 9) To analyse tax debt and the ways of eliminating it, particularly payment and limitation.

- Master Information and Communication Technologies.

Goals

- 3) To distinguish the different types of taxes.
- 6) To recognise the different parties liable for tax.
- 7) To differentiate the methods of determining the taxable sum.
- 8) To apply the tax rate to determine the tax due.
- 9) To analyse tax debt and the ways of eliminating it, particularly payment and limitation.
- 1) To search for the financial and tax law sources, locate them and apply the relevant ones at all times.
- 2) To remember, explain and describe basic taxation concepts in order to use them properly on tax returns.

- 4) To identify taxable matters, exemptions and matters not included in the principal taxes affecting businesses.
- 5) To interpret tax regulations to classify the most common matters, acts and legal actions in the business world.

Degree-specific competences

- Apply instrumental techniques to the analysis and solution of business problems and to the taking of decisions.

Goals

- 6) To recognise the different parties liable for tax.
- 8) To apply the tax rate to determine the tax due.
- 7) To differentiate the methods of determining the taxable sum.
- 4) To identify taxable matters, exemptions and matters not included in the principal taxes affecting businesses.
- 5) To interpret tax regulations to classify the most common matters, acts and legal actions in the business world.

- Elaborate, interpret and audit the economical-financial information of entities and individuals, and provide them with assessment.

Goals

- 5) To interpret tax regulations to classify the most common matters, acts and legal actions in the business world.
- 9) To analyse tax debt and the ways of eliminating it, particularly payment and limitation.
- 8) To apply the tax rate to determine the tax due.
- 7) To differentiate the methods of determining the taxable sum.
- 6) To recognise the different parties liable for tax.
- 4) To identify taxable matters, exemptions and matters not included in the principal taxes affecting businesses.

Degree-transversal competences

- Ability to organise and plan.

Goals

- 1) To search for the financial and tax law sources, locate them and apply the relevant ones at all times.
- 2) To remember, explain and describe basic taxation concepts in order to use them properly on tax returns.
- 3) To distinguish the different types of taxes.
- 4) To identify taxable matters, exemptions and matters not included in the principal taxes affecting businesses.
- 5) To interpret tax regulations to classify the most common matters, acts and legal actions in the business world.
- 6) To recognise the different parties liable for tax.
- 7) To differentiate the methods of determining the taxable sum.
- 8) To apply the tax rate to determine the tax due.
- 9) To analyse tax debt and the ways of eliminating it, particularly payment and limitation.

- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.

Goals

- 2) To remember, explain and describe basic taxation concepts in order to use them properly on tax returns.

- Ability to analyse and synthesise.

Goals

- 3) To distinguish the different types of taxes. 5) To interpret tax regulations to classify the most common matters, acts and legal acions in the business world. 7) To differentiate the methods of determining the taxable sum. 8) To analyse tax debt and the ways of eliminating it, particularly payment and limitation.

- Act in accordance with rigour, personal compromise and in a quality orientated way.

Goals

- 1) To search for the financial and tax law sources, locate them and apply the relevant ones at all times.
- 5) To interpret tax regulations to classify the most common matters, acts and legal actions in the business world.

Subject contents

1.- The tax regulation sources. The General Taxation Act. The Taxation Act reserve

2.- Taxes Concepts and types. Principles of the tax system

3.- The application of tax regulations: time and territory

4.- Interpretation. Classification. Analogy. Conflict in the application of tax regulations. Simulation

5.- The legal-taxation relationship. The principal tax obligation. Accessory tax obligations. Formal tax obligations. The obligations and duties of the tax administration

6.- Tax ablematters. Exemptions. Offsetting or yielding. Circumstances when taxis not due

7.- Tax obligations. Rights and guarantees of parties liable to tax. Types of party liable to tax. Accountable parties: tax payers and substitutes

8.- Successors of tax obligations. Successors of individuals. Successors of legal organisations and organisations without legal identity. Taxpayers:joint and several, and secondary

9.- Capacity to act in the taxation sphere. Legal representation. Voluntary representation. The representation of non-resident persons ororganisations. The official address

10.- The taxable sum: concept and methods of determination. Tax base

11.- Tax rates. Tax payable

12.- Tax debt. Clearing the debt: payment. Expiry. Other means: compensation, cancellation. Provisional deregistration due to insolvency. Tax debt guarantees

Methodology

Evaluación continuada turno tarde Dra. Lluisa Ochoa Trepat La asignatura se realizará mediante la metodologia de "aprender haciendo". Las clases seran teorico-practicas siguiendo la metodologia del plan de bolonia de forma que al finalizar el curso el alumno tenga las herramientas necesarias para enfrentarse a la normativa juridico tributaria e interpretarla y aplicarla. Para seguir esta metodologia, se colgaran en la plataforma Sakai el contenido del tema a desarrollar en clase de forma previa para que el alumno se pueda ir familiarizando con sus contenidos y olvidarnos asi de las clases magistrales para pasar a una modalidad de clase de compartir dudas, enfoques y ampliar conocimientos

y despertar en el alumno unos aprendizajes basados en su propio desarrollo.

Evaluation

Grupo tarde: La evaluación se realizará computando el examen final a realizar, los trabajos continuados de la asignatura y la asistencia y participacion en las clases. Es una evaluacion global y continuada con un resultado final favorable o no en el que realmente se considera que se han adquirido los conocimientos necesarios de la asignatura.

Bibliography

Recommended bibliography

- FERREIRO LAPATZA, JUAN JOSE: "Curso de Derecho Financiero Español". Editorial Marcial Pons. Latest edition

- PEREZ ROYO, F. : "Derecho Financiero y Tributario. Parte General". Monograph, Ed. Civitas, 2010

- MARTÍN QUERALT, J; LOZANO SERRANO, C; CASADO OLLERO, G; TEJERIZO LOPEZ,J.M.: "Curso de Derecho Financiero y Tributario" Ed. Tecnos. Madrid.

- CEF: "Ley General Tributaria. (Ley 58/2003) Comentarios y Casos prácticos) REAF

- Collado Yurrita, M.A. and Luchena Mozo, G. M. "Derecho Financiero y Tributario. Parte General" Atelier Libros Jurídicos, Barcelona, 2009.

http://www.fiscal-impuestos.com

http://www.aeat.es

http://www.e-tributs.net

PowerPoints on the subject in Content on Sakai.

DEGREE CURRICULUM

STRATEGIC MARKETING

Academic year 2015-16

Subject's general information

Subject name	STRATEGIC MARKETING
Code	101325
Semester	2n Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	6
Theoretical credits	0
Practical credits	0
Department	Administració d'Empreses i Gestió Econòmica dels Recursos Naturals
Modality	Presencial
Degree	Degree in Business Administration and Management
Distribution of credits	Eduard Cristóbal Fransi 9.6
E-mail addresses	ecristobal@aegern.udl.cat

Teaching staff

Eduard Cristóbal Fransi

Subject's extra information

The course as part of the academic plan

Strategic Marketing is a subject of the third academic year that is a continuation of the introduction to marketing given in Marketing Management the second academic year. It is therefore essential to study this subject after having successfully passed Marketing Management. Moreover, you can complete your knowledge in the field of marketing by taking optional subjects such as Marketing research where you can study the market research process, as well as the main qualitative techniques or the Foreign Trade course, which introduces you to the concepts, mechanisms and dynamics for starting the export and/or importing activity of a company.

Learning objectives

See competences

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.
- Master Information and Communication Technologies.

Degree-specific competences

- Identify and interpret the economical, environmental, political, sociological and technological factors in local, national and international ambits, and their repercusion upon organizations.
- Perform the roles related to the different functional areas of a business and institutions.

Goals

- (1) How to draft a marketing plan based on the working knowledge obtained on the subject. (2) Decision-making on product policies: definition of the product, brand, packaging, positioning.... (3) Decision-making on pricing policies: price setting methods, price adjustment strategies... (4) Decision-making on distribution policies: the distribution function, types of channels and distribution strategies, trends... (5) Decision-making on communication policies: know the elements of the communication mix, communication strategies, preparation of a corporate communication plan...

Degree-transversal competences

- Ability to criticise and be self-critical.
- Ability to organise and plan.
- Teamwork and leadership.
- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.
- Ability to analyse and synthesise.
- Act in accordance with rigour, personal compromise and in a quality orientated way.

Subject contents

Subject contents

Topic 1. The marketingplan

Topic 2. Productstrategies

Topic 3. Pricingstrategies

Topic 4. Distributionstrategies

Topic 5.Communication strategies

Bibliography

Recommended bibliography

Basic and Supplementary Bibliography

- CUTROPÍAFERNÁNDEZ, Carlo (2005). Marketing plan: stepby step (2nd Edition).ESICPublisher. Madrid.
- KOTLER,Philip; ARMSTRONG, Gary (2008): Introduction to Marketing (12thEdition); Pearson Educación,Madrid.
- LAMBIN,Jean – Jacques (2003): Strategic Marketing; Esic Publisher. Madrid.
- RODRÍGUEZARDURA, Inma te a.r (2008): Marketing principles and strategies (2ndEdition); UOC Publisher, Barcelona.
- SANTESMASESMESTRE, Miguel (2009): The fundamentals of marketing; Pirámide Publisher, Madrid.

Magazines

- Marketing+ Sales (Spain)
- IPMark (Spain)
- Harvard-DeustoMarketing & Sales (Spain)
- Harvard-DeustoBusiness Review (Spain)

Electronic resources

- Supportmaterial to the manual *Marketing principles and strategies (2nd Edition)*:http://www.editorialuoc.com/marketing
- The digitaleBook by Rafael Muñiz published by CEF available at the following link address: http://www.marketing- xxi.cómo/

DEGREE CURRICULUM

OPERATIONS MANAGEMENT AND LOGISTICS

Coordination: La coordinació de l'assignatura la realitzarà en Jose Manuel Alonso Martínez

Academic year 2015-16

Subject's general information

Subject name	OPERATIONS MANAGEMENT AND LOGISTICS
Code	101326
Semester	2n Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	6
Theoretical credits	3.6
Practical credits	2.4
Coordination	La coordinació de l'assignatura la realitzarà en Jose Manuel Alonso Martínez
Office and hour of attention	Dijous 11.30 a 12.30h Dijous 18.30 a 19.30h Dimarts 16.30 a 17.30h
Department	Administració d'Empreses i Gestió Econòmica dels Recursos Naturals
Teaching load distribution between lectures and independent student work	40% classe presencial 60% treball autònom de l'estudiant
Modality	Presencial
Language	Catalan
Degree	Degree in Business Administration and Management
Distribution of credits	Jose Manuel Alonso Martinez 8.4 Josep M. Barrufet Olivart 8.4 Francisco Juárez Rubio 2.4
E-mail addresses	jmanuel@aegern.udl.cat jbarrufet@aegern.udl.cat fjuarez@aegern.udl.cat

Teaching staff

Jose Manuel Alonso Martinez Josep M. Barrufet Olivart Francisco Juarez Rubio

Subject's extra information

The course as part of the academic plan

This is one of the compulsory courses in the third year in which students will start learning about the operations and logistics area which is one of the most important functional areas of any company or organisation.

Learning objectives

See comptences.

Significant competences

University of Lleida strategic competences

- Correctness in oral and written language.

Goals

  - 6. Use the basic concepts and the specific vocabulary related to the operations properly.

- Master Information and Communication Technologies.

Degree-specific competences

- Apply instrumental techniques to the analysis and solution of business problems and to the taking of decisions.

Goals

  - 4. Design, evaluate and improve the production systems of any organisation
  - 5. Use different techniques to analyse and take strategic and operational decisions on the problems arising in the operations area

- Perform the roles related to the different functional areas of a business and institutions.

Goals

  - 4. Design, evaluate and improve the production systems of any organisation
  - 2. Explain the importance of the managing the logistics chain as a competitive advantage.

- Elaborate, interpret and audit the economical-financial information of entities and individuals, and provide them with assessment.

Degree-transversal competences

- Ability to criticise and be self-critical.
- Ability to organise and plan.
- Teamwork and leadership.
- Be able to work and to learn in an autonomous way and simultaneously adequately interact with others, through cooperation and collaboration.

- Ability to analyse and synthesise.

Goals

  - 1. Analyse and/or define the strategic guidelines of operations management and the implications on the company’s overall strategy and performance.

- Act in accordance with rigour, personal compromise and in a quality orientated way.

Subject contents

Subject contents

BLOCK I

1. OperationsStrategy.
   1.1. Contextin which the operations strategy is implemented.
   1.2. *Competitive priorities*.
   1.3. Positioningstrategies in operations.
   1.4. Operationsmanagement as a competitive advantage.

2. Processdesign.
   2.1. Introduction:Type of process. Make-to-stock-project-order-production.
   2.2. Fundamentalelements in the design process.
   2.3. Processanalysis techniques.
   2.4. Pushand pull systems.
   2.5. Leanmanufacturing systems.
   2.6. Just-in-timephilosophy (JIT).
   2.7. Productionsystem indicators. Productivity.

BLOCK II

3. Capacitymanagement
   3.1. Definitionof capacity.
   3.2. Capacityplanning and control: *Bottleneck management.*
   3.3. Capacitydecision making methodology.
   3.4. Capacityplanning tools and techniques.

4. Trackingand tracing strategies
   4.1. Decisionson tracking and tracing: Significant trends.
   4.2. Factorsthat affect the decisions made on tracking and tracing.
   4.3. Trackingand tracing of a plant.

4.4. Trackingand tracing within a network of plants.

5. Plantdistribution strategies: Layout.

5.1. Introductionto planning the layout.

5.2. Basicplant distribution formats.

5.3. Plantdistribution per product.

5.4. Plantdistribution per process.

BLOCK III

6. Planningproduction

6.1. Description of the operations planningactivities: long, medium and short-term.

6.2. Aggregate *production planning:*strategies.

6.3. Master production plan.

BLOCKIV

7. Introductionto logistics

7.1. How logistics fit in with the company'sOperations Management.

7.2. Supply chain management (SCM).

7.3. Purchasing and supplies.

7.4. Storageand handling.

7.5. Picking, packing / preparing orders.

7.6. Transportation and distribution.

8. Stockcontrol

8.1. Concept and role of the inventory and stocksin the company.

8.2. Type of inventories.

8.3. Inventory costs.

8.4. *Dependent vs. Independentdemand*.

8.5. Basic inventory models in independent demand: *fixedorder* quantity systems andfixed*order period systems.*

9. *Material management*: MRP I.

9.1. Dependant demand inventory systems.

9.2. Planning material needs: MRP I.

9.3. Planning *production resources*:MRP II.

BLOCK V

10. Innovation and technology management.

    10.1. Innovation vs. technology.

    10.2. Characteristics of companies that areconstantly successful.

    10.3. Designing new products.

    10.4. Manufacturing technology*.*

    10.5. Managing technological change.

    10.6. Innovation management.

11. Quality management.

    11.1. Evolution of Quality management.

    11.2. Contributions of Juran, Deming and Ishikawa toquality management.

    11.3. ISO 9001:2008 quality management standard.

    11.4. The EFQM Excellence Model for Self-Employed *Entrepreneurs.*

12. Total Product Maintenance (TPM)

    12.1. Introduction. Principles and importance ofTPM.

    12.2. Types of maintenance.

    12.3. Implementing the TPM.

    12.4. Benefits of the TPM.

Methodology

La impartició de la docència d'aquesta assignatura inclou la realització de classes en grup gran, principalment classes magistrals; classes en grup mitjans, bàsicament classes pràctiques; i treball autònom de l'alumne. Aquest treball podrà ser individual o en grup en funció de les activitats proposades.

Es lliuraran uns apunts bàsics a l'inici de cada bloc de temes. Aquests apunts caldrà complementar-los amb bibliografia, principalment la que es proposa en aquesta guia docent.

A més dels apunts teòrics, es lliuraran exercicis pràctics. Alguns exercicis seran resolts pel professor i d'altres els treballareu i resoldreu vosaltres per tal d'assimilar els conceptes explicats a classe.

El mitja de comunicació amb l'estudiant serà a través de l'Espai Virtual Sakai UdL. En aquest espai trobareu tot el material de l'assignatura com els apunts, els enunciats dels exercicis, algunes solucions, notes, etc, així com avisos i altres missatges del professors

L'assistència a classe és important i algunes de les proves avaluables es faran sense previ avís.

Development plan

Dates (Setmanes)	Descripció:	Activitat Presencial	HTP (2) (Hores)	Activitat treball autònom	HTNP (3) (Hores)
Setmana 1 -4	Presentació de l'assignatura. BLOC I Tema 1: Estratègia d'operacions. Tema 2: Disseny de processos	Presentació de l'assignatura. Lliçó magistral, discussió de cassos i problemes.	14	Comprensió dels apunts Resolució de casos Resolució d'exercicis	18
Setmana 5 - 8	BLOC II Tema 3: Gestió de la capacitat. Tema 4: Localització. Tema 5: Distribució en planta	Lliçó magistral Resolució de problemes Estudi de casos	14	Lectura i comprensió i estudi dels apunts Resolució d'exercicis de capacitat Resolució d'exercicis de localització Resolució d'exercicis de layout	18
Setmana 9	PTP 1. Prova escrita de teoria i pràctica dels temes 1al 6	Examen escrit individual	2	Preparar examen	9
Setmana 10-11	BLOC III Tema 6: Planificació de la producció	Lliçó magistral Resolució de problemes Estudi de casos	7	Lectura i comprensió i estudi dels apunts Resolució d'exercicis de planificació de la producció	10
Setmana 11-14	BLOC IV Tema 7: Gestió d'estocs. Tema 8: Gestió de materials: MRP I Tema 9: Supply Chain Management	Lliçó magistral Resolució de problemes Estudi de casos (vídeos i conferència) Pràctica aula informàtica	13	Lectura i comprensió i estudi dels apunts Resolució d'exercicis Estudi de casos	15
Setmana 15-16	BLOC V Tema 10: Gestió de la innovació Tema 11: Gestió de la qualitat Tema 12: Manteniment Productiu Total (TPM)	Presentació oral per grups d'alumnes	8	Preparació per grups de 4-5 alumnes de la presentació en powerpoint dels temes 10, 11 i 12 del Bloc V	11
Setmana 17-19	PTP 2. Prova escrita de teoria i pràctica dels temes 6 al 12	Examen escrit individual	2	Preparar examen	9

(2)HTP = Hores de Treball Presencial

(3)HTNP = Hores de Treball No Presencial

Evaluation

Activitats d'Avaluació	Criteris	%	Dates	O/V (1)	I/G (2)	Observacions
PTP 1 (Prova de teoria i pràctica 1)	Exercicis teòrics i pràctics dels temes 1 al 5 tots en format tipus test amb resposta múltiple	22,5%	Setmana 9	O	I	Si l'alumne no es presenta obtindrà la qualificació de NO PRESENTAT, tot i que constarà com a zero per a fer la mitjana.

Activitats d'Avaluació	Criteris	%	Dates	O/V (1)	I/G (2)	Observacions
PTP 2 (Prova de teoria i pràctica 2)	Exercicis teòrics i pràctics dels temes 6 al 12 tots en format tipus test amb resposta múltiple	22,5%	Setmana 17-19	O	I	Si l'alumne no es presenta obtindrà la qualificació de NO PRESENTAT, tot i que constarà com a zero per a fer la mitjana.
PP 1 (Prova de pràctica 1)	Exercicis pràctics dels temes 1 al 5	15%	Setmana 7-8	O	I	Si l'alumne no es presenta obtindrà la qualificació de NO PRESENTAT, tot i que constarà com a zero per a fer la mitjana.
PP 2 (Prova de pràctica 2)	Exercicis pràctics dels temes 6 al 9	15%	Setmana 14-15	O	I	Si l'alumne no es presenta obtindrà la qualificació de NO PRESENTAT, tot i que constarà com a zero per a fer la mitjana.
Presentació oral amb suport de PowerPoint dels Temes 10, 11 i 12 (qualitat, innovació i TPM)	Es valorarà la qualitat del PowerPoint, els continguts i la utilització i aplicació dels conceptes, la expressió oral i la precisió lingüística, etc	20%	Setmana 15-16	O	G	Caldrà presentar una còpia en paper de la presentació. Els grups estaran formats per 4-5 persones per fer un màxim de 6 grups per cada grup mitjà
Exercicis, resolució casos pràctics, resum conferències	Temes 1 al 12	5%	Al llarg del curs. S'aniran fixant a classe i al campus virtual	O	I/G	La nota d'aquesta activitat sortirà de la mitjana ponderada dels exercicis, casos, resums i altres proves realitzades al llarg del curs

(1) Obligatòria / Voluntària

(2) Individual / Grupal

Aclariments

L'assignatura de Direcció d'Operacions i Logística serà avaluada mitjançant avaluació contínua.

L'avaluació continua consisteix en que l'alumne obtingui notes dels següents tipus d'activitats: 4 proves escrites, els lliuraments d'informes, d'exercicis, casos i resums realitzats o sol·licitats a classe o al campus virtual, i la presentació oral d'un o més temes.

Per tant, per superar aquesta assignatura heu de tenir present:

a. La realització de 2 proves escrites que avaluaran el contingut teòric i pràctic del programa. La primera prova PTP1 serà dels temes 1, 2, 3, 4, 5. La segona prova PTP2 serà dels temes 6, 7, 8, 9. Cada prova escrita tindrà un pes del 22,5% en la nota final. Aquestes proves ja estan marcades en el calendari acadèmic que estableix la FDE.
b. La realització de 2 proves escrites que avaluaran el contingut pràctic del programa. La primera prova PP1 serà dels temes 1, 2, 3, 4, 5. La segona prova PP2 serà dels temes 6, 7, 8, 9. Cada prova escrita tindrà un pes del 15% en la nota final. La data d'aquestes proves es realitzarà en horari de classe i s'avisarà amb antelació.
c. Els temes 10, 11 i 12 seran avaluats mitjançant la exposició oral per grup d'aquests temes. La presentació i defensa tindrà un pes del 20% en la nota final. La data d'aquesta prova es realitzarà en horari de classe i s'avisarà amb antelació.
d. El lliurament o realització a classe d'exercicis, casos i resums proposats es valoraran per part dels professors i tindran un pes del 5% en la nota final.

Avís important

1. L'alumne que no es presenti a alguna de les activitats tindrà d'aquella activitat no presentada la qualificació de

zero.
2. No s'ajornen les dates de les proves: ni per malaltia, ni perquè teniu una altra prova escrita d'una altra assignatura, ni per qualsevol altre motiu.
3. Qui no es presenti a alguna de les proves obtindrà la qualificació de zero.
4. L'alumne que només obtingui qualificació en 2 o menys dels 6 tipus d'avaluació obtindrà com a nota final d'aquesta assignatura la qualificació de NO PRESENTAT.
5. L'alumne que tingui alguna nota de 3 o 4 activitats d'avaluació tindrà com a nota final d'aquesta assignatura el que li surti de fer-li la mitjana ponderada.
6. No hi ha examen final de l'assignatura.

Altres aspectes a tenir present a l'hora de fer les proves escrites:

- A les proves escrites només es podrà portar el bolígraf, la calculadora i el programa acadèmic.
- No es poden portar ni mòbils ni els apunts o qualsevol material amb els continguts del programa.
- Tothom ha de tenir, els dies de les proves escrites, la seva calculadora i el seu programa i no es podran intercanviar ni deixar.
- Qualsevol persona que copiï pel sistema que sigui obtindrà directament la qualificació de suspens.

Nota final de l'assignatura

La nota final d'aquesta assignatures es calcularà fent la mitjana ponderada de les 4 notes dels quatre blocs d'activitats

Per a calcular la nota FINAL es farà la mitjana ponderada sobre totes les activitats, segons els percentatges establers (veure la taula d'aquest apartat). Per a superar l'assignatura cal:

1-Obtenir com a mitjana ponderada de totes les proves una nota igual o superior a 5 sobre 10.

2-Tenir aprovades dos o mes de les 4 proves escrites (PTP1;PTP2;PP1;PP2). En el cas de no complir amb aquest requisit la nota final seria de **SUSPENS**.

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DEGREE CURRICULUM

EXTERNAL PRACTICAL TRAINING IN PUBLIC AND PRIVATE ENTITIES

Academic year 2015-16

Subject's general information

Subject name	EXTERNAL PRACTICAL TRAINING IN PUBLIC AND PRIVATE ENTITIES
Code	101346
Semester	Anual Avaluació Continuada
Typology	Obligatòria
ECTS credits	15
Theoretical credits	0
Practical credits	0
Office and hour of attention	1er semestre: dimarts de 11 a 13.30h i dijous de 9.30 a 11 h
Department	Administració d'Empreses i Gestió Econòmica dels Recursos Naturals
Modality	Presencial
Language	Català
Degree	Degree in Business Administration and Management
Distribution of credits	Ana Vendrell 2n Semestre Anna Tena Tarruella 1er Semestre
E-mail addresses	ana.vendrell@aegern.udl.cat tenat@aegern.udl.cat

Teaching staff

Ana Vendrell Anna Tena Tarruella

Subject's extra information

Suggestions

Are prerequisites for the realization of the practicum:

• Be a student of the Bachelor degree in Business Administration.

• Have completed 150 credits of the degree of Bachelor in Business Administration.

• Be enrolled in the field practicum prior to the completion of internships curriculum.

• Have completed the application form and send the practicum coordinator to resume.

• be formalized and Educational Cooperation Agreement signed on University-Industry and its annexes before the start of the stay in the partner (company or institution). These conditions for the realization of the practicum:

• Perform 300 hours of work experience in a partner (or recognizing them as appropriate).

• Make a practice of 3 preset periods: 1st semester 2nd semester or summer, in the course in which the student has enrolled in practicum.

• Do not make a practice partner with contract. Students who have supplied the information request placement at the time of registration is included in the list of candidates for the internship. Otherwise, it is understood that the student has waived his accomplishment in the academic year. The student has to stay in the partner and also attend all the tutorials with your academic tutor and make an oral presentation of the report.

The course as part of the academic plan

Among the functions of the university is to prepare students for professional activities that require the application of knowledge in the appropriate qualifications. In order to promote the implementation of this function is to promote and establish appropriate linkages for collaboration between universities and companies and institutions around them. Placement in the field of public and private organizations is an example of this collaboration and complement the professional training offered to students having reached prior basic knowledge and skills in their academic career. The subjects with which it connects are all of degree, since the objective of internships is to practice and apply the skills acquired in the subjects studied.

Subject contents

The internships will take place in one partner (company or institution) per student / s.Eachstudent / Academic Tutor at will, which is a lecturerin the Faculty of Law and Economics, and Guardian of collaborating institution designated by it.

Internships can be made during the following periods: first semester, second semester or summer.

Tutorials with academic tutor will consist of a series of scheduled meetings and communicated by it.

Students may propose an internship and exceptionally only if it has previouslyconsulted the practicum coordinator, and this gives his approval.

The activities to be carried out to pass the subject are summarized in the table below:

4 crèdits ECTs	Hores a l'empresa o institució on es fan les pràctiques	300 h. (80%)
	Hores per a la redacció de la memòria	56,25 h. (15%)

	Hores de tutoria acadèmica	15 h. (4%)
	Hores d'avaluació i exposició	3,75 h. (1%)

The specific tasks to be performed are The following students:

· Registering in terms of internships from which each center compleixiels own requirements / qualifications have established (150 credits passed).

· Have a first interview with the coordinator of internships permanifestar interestsand preferences in making lespràctiques external.

· Maintain an initial interview with the partner assignadaperacabar define specific aspects of the practice site.

· Provide all information required for the signing of convenidepràctiques.

· Signing the documents (training agreement and annexes)necessàriaabansd'iniciar stay in the partner.

· To practices the partner assigned time respecting the rules and responsibilitiesthat have been established detasques development.

· Fulfill the tutoring schedule with your academic tutor.

· Write expose "Memory placement."Within each of the possible profiles that can develop the students of the Master in Accounting, Auditing and Management Controlalhorade do internships in partner organizations, some tasks are defined, whatshould be our competent salumnes that are:

1. Profile / financial accounting area

Understand, namely planning and producing the full accounting cycle

Understand and apply accounting software

Prepare financial statements

Interpret the financial criteria of liquidity, solvency, profitability and decision making in the financial statements baseals

Identify and calculate the cost of doing business

Making decisions based on analysis of costs

Design, implement and monitor a budget control modelde

Develop systems of indicators for assessing the progress of the company

Manage and control cash

Develop and analyze an investment plan ifinançament

Analyze the financial structure and funding costde

Understand the relationships with financial institutions and knowledge of financial markets

Know how to plan and execute internal audits

Know how to plan and execute external audit and the audit report

2. Profile / marketing-marketing area

Ability to analyze a market investigation (consumer behavior, competition, market trends)

Decide marketing strategy or "marketing-mix"

Analyze and implement systems and sales distribution

Develop a media plan

Designing an advertising campaign

3. Profile / organization area / production

Ability to organize and collaborated production

Manage the procurement and the inventory

Ability to interpret the legislation on various aspects of business management(quality, environment, etc.).

Implement the appropriate management systems well as the issue of corporate social responsibility

4. Profile / area of people management

Analyze and design jobs

Decide motivacióde personnel and pay systems

Develop a plan for staff training

Design a system to prevent labour risks.

5. Profile tax and labor

Know how to interpret the information of different companies

Know how to make different oficial documents.

Understand how different agencies

Evaluation

Activitats avaluació	%	Moment d'avaluació	Agent avaluador
INFORME AUTOAVALUACIÓ ALUMNE	10	Finalització període de pràctiques	Alumne
INFORME AVALUACIÓ TUTOR ACADÈMIC	30	Durant l'estada en l'empresa i a la finalització del període de pràctiques	Tutor acadèmic
INFORME AVALUACIÓ TUTOR COL·LABORADOR	30	Finalització període de pràctiques	Tutor empresa

INFORME AVALUACIÓ EXPOSICIÓ ORAL/TRIBUNAL	30	Durant l'exposició oral	Tribunal de pràcticum

Bibliography

Recommended bibliography

Internships are governed by state regulations: Royal Decree 1707/2011 of 18 November, and so must be regulan las prácticas Académicas externas of them students universitarios "; specific regulations in the UDL" The practicum grades "in according 264/2008 of the Governing Council of 13 November 2008 and amended on 16 July 2010, the rules governing the evaluation and qualification of students in Lleida, approved by the Governing Council special 2 June 2009 and the Regulations of practicum Faculty of Law and Economics.

The accompanying material of the subject can be obtained through the website of the Faculty of Law and Economics and in the same issue of internships on campus.

DEGREE CURRICULUM

INTRODUCTION TO PROGRAMMING I

Coordination: Subject taught during the first semester of the first year of the degree.
It corresponds to the "Computer Science" matter within the module "Basic Training".

Academic year 2015-16

Subject's general information

Subject name	Introduction to Programming I
Code	102000
Semester	1st semester Continuous Assessment
Typology	Compulsory
ECTS credits	6
Groups	1 large-group in GEI, 3 small-groups in GEI, 1 small-group in repeated teaching in GEI. 1 group in GEIADE
Theoretical credits	2
Practical credits	4
Coordination	Subject taught during the first semester of the first year of the degree. It corresponds to the "Computer Science" matter within the module "Basic Training".
Office and hour of attention	Josep Argelich Romà To be specified by Email Maria Teresa Alsinet Bernadó To be specified by Email
Department	Informàtica i Enginyeria Industrial
Teaching load distribution between lectures and independent student work	Every week the student attends two hours within a large-group and 2 hours within an small-group. Small-group sessions are held in the laboratory. In large-group sessions we present algorithmic concepts and structures. For each algorithmic structure, a collection of programming exercises is proposed. The student have to autonomously design and implement solutions to the collections of exercises. In the small group sessions we analyze the implementations and we solve all the encountered problems. Finally, small-group sessions support mandatory practices that the student have to develop in groups along the course.
Modality	Presencial
Language	Catalan, Spanish and English.
Degree	Degree in Computer Enginneering
Distribution of credits	2 ECTS for presenting concepts and algorithmic structures. 2 ECTS for problem solving (practical). 2 ECTS for implementing solutions.
E-mail addresses	jargelich@diei.udl.cat tracy@diei.udl.cat

Teaching staff

Josep Argelich Romà Maria Teresa Alsinet Bernadó

Subject's extra information

Students must show interest to the analysis of both problems and their solutions. To follow this subject properly skills on analysis, logical reasoning, methodical and organized work, and critical capacity are recommended.

For any doubt and question it is recommended to send an email to the teaching staff.

We recomend to solve the collection of programming exercises in order to achieve the learning objectives.

Learning objectives

The learning objectives of the course are to design algorithms to solve sequential treatment problems and then, to implement this algorithms with a programming language. Specifically, the programming language used for this pourpouse is ANSI C/C++ and problems to be solved are mainly those related with sequences processing.

In particular the main learning objectives are:

- To design and implement algorithmic structures to solve the different types of problems.
- To design and implement data structures to encode information.
- To design and implement iterative algorithms.
- To identify problem types and to apply appropriate algorithmic strategies.
- To design and implement algorithms to solve complex problems in a structured way.
- To design and implement solutions using the top-down design technique.
- To use programming languages strategies for dynamic memory management features.
- To use a software development environment based on a high-level programming language.

The objectives associated with the most remarkable competences in relation to the teaching project of the subject and the studies are as follows.

- Knowledge, design and efficient use of the most appropriate data type and structure to resolve a problem.

  *Goals***:**

  - Design and implement algorithms to solve complex problems in a structured and efficient way.
  - Design and implement the operations associated with the structures identified
  - Integrate the data design in the application design.
  - Design and implement appropriate data structures to represent information of each problem.

- Basic knowledge of computer use and programming, operative systems, data bases and computer programmes with applications in engineering.

  Goals:

  - To use a software development environment based on a high-level programming language.
  - Dynamic memory management using the features of its own programming language.
  - Design and implement basic algorithmic solutions using the refining design technique.
  - Identify the type of problem and apply the appropriate algorithmic strategy.
  - Design and implement iterative algorithms.
  - Design and implement algorithmic structures suitable for solving different types of problems.

- Be motivated by quality and continual improvement.

Goals:

- To design and implement appropriate data structures to represent information of each problem.
- Learn to design efficient algorithms and to implement them in a compilable programming language.

Significant competences

Strategic Competences of the UdL:

- EPS1. Capacity to solve problems and prepare and defence arguments inside the area of studies.
- EPS5. Capacity of abstraction and of critical, logical and mathematical thinking.
- EPS9. Capacity for unidisciplinary and multidisciplinary teamwork.
- EPS12. To be motivated for the quality and steady improvement.

Specific competences in the degree in Computer Engineering:

- GII-FB3. Capacity to understand and master the basic concepts of discreet mathematics, logical, algorithmic and computational complexity, and its application to solve engineering problems.
- GII-FB4. Basic knowledge of the use and programming of computers, operating systems, databases and computer programs with applications in engineering.
- GII-FB5. Knowledge of the structure, organisation, operation and interconnection of the computer systems, the basics of programming, and its application to solve engineering problems.
- GII-CRI7. Knowledge, design and efficient use of the types and data structure more suitable for solving a problem.
- GII-CRI9. Capacity to know, comprise and evaluate the structure and architecture of computers, as well as the basic components that conform them.

Subject contents

Introduction: Processes, algorithms and programs.

Unit 1. Basic algorithmic structures

1.1 Constants, variables, basic types and valid expressions

1.2 Assignment, sequential composition, alternative composition and iterative composition

1.3 Programming Environment

Unit 2. Iterative design of programs

2.1 Sequential Access

2.1.1 Algorithmic schemes for sequence processing

2.1.2 Algorithmic schemes for search in sequences

2.2 Direct access. Tables

2.2.1 Sequential tables

2.2.2 Direct tables

2.2.3 Classic sorting algorithms

Unit 3. Non-basic data processing

3.1. Descendant design of algorithms

3.2 Procedures and Functions

3.3 Parameter transfer mechanisms

3.4 Registers

Topic 4. Memory management in C /C++

4.1 Management of memory addresses

4.2 Allocation and freeing of memory blocks

Methodology

The main objective of this course is to design algorithms, then implement them in a programming language. Specifically, the procedural language ANSI C/C++ is chosen and the problems to solve are mainly processing sequences.

Under this framework, the course contents are structured in four blocks. The first presents the basic instructions of the algorithmic language used throughout the course as well as the programming language C. The second shows how to design "simple" algorithms by identifying the problem to be solved and the application of direct and sequential access patterns, in addition, we present the non-basic data types that support them. The third shows the descendant design technique which can address more "complex" problems from "simple" problems. Finally, the fourth part of the course focuses on the management of dynamic memory in ANSI C/C++ and its integration with the algorithmic schemes studied throughout the course.

For each block a collection of problems is proposed that the student must address independently and supervised in the laboratory sessions

Development plan

Description:

Introduction to the course.

Unit 1. Basic algorithmic structures

Total amount of in-classroom hours: 10 h (3 sessions large-group and 2 sessions small-group)

Total amount of out-of-classroom hours: 15 h

Description:

Description and organization of the first mandatory programming exercise.

Total amount of in-classroom hours: 2 h (1 session small-group)

Total amount of out-of-classroom hours: 3 h

Description:

Unit 2. Iterative design of programs

2.1 Sequential Access

2.2 Direct access. Tables

Total amount of in-classroom hours: 18 h (5 sessions large-group and 4 sessions small-group)

Total amount of out-of-classroom hours: 27 h

Description:

Assessment activities.

Total amount of in-classroom hours: 2 h

Total amount of out-of-classroom hours: 3 h

Description:

Unit 3. Non-basic data processing

3.1. Descendant design of algorithms

3.2 Procedures and Functions

3.3 Parameter transfer mechanisms

3.4 Registers

Total amount of in-classroom hours: 18 h (5 sessions large-group and 4 sessions small-group)

Total amount of out-of-classroom hours: 27 h

Description:

Description and organization of the second mandatory programming exercise.

Total amount of in-classroom hours: 2 h (1 session small-group)

Total amount of out-of-classroom hours: 3 h

Description:

Topic 4. Memory management in C/C++

4.1 Management of memory addresses

4.2 Allocation and freeing of memory blocks

Total amount of in-classroom hours: 4 h (1 sessions large-group and 1 sessions small-group)

Total amount of out-of-classroom hours: 6 h

Description:

Assessment activities.

Total amount of in-classroom hours: 2 h

Total amount of out-of-classroom hours: 3 h

Description:

Optional assessment activities.

Total amount of in-classroom hours: 2 h

Total amount of out-of-classroom hours: 3 h

Evaluation

Assessment 1: Written test

Goals:

- Design and implement algorithmic structures suitable for solving different types of problems.
- Design and implement iterative algorithms.
- Identify the type of problem and apply the appropriate algorithmic strategy.
- Design and implement appropriate data structures to represent information of each problem.

Criteria: To pass the course, the mark obtained in the written test must be ≥ 4. Realisation Individual.

Character Compulsory. Percentage 25%

Assessment 2: Written test

Goals:

- To design and implement appropriate data structures to represent information of each problem.
- Design and implement algorithmic structures suitable for solving different types of problems.
- Design and implement iterative algorithms.
- Identify the type of problem and apply the appropriate algorithmic strategy.
- Design and implement basic algorithmic solutions using the refining design technique. Dynamic memory management using the features of its own programming language. Design and implement algorithms to solve complex problems in a structured and efficient way.
- Design and implement the operations associated with the structures identified
- Design and implement appropriate data structures to represent information of each problem.

Criteria: To pass the course, the mark obtained in the written test must be ≥ 4. Realisation Individual.
Character Compulsory. Percentage 35%

Observations: If the mark obtained in this test ≥ 4, then it can improve the grade mark for the first written test, the weight of which is 25%.

Assessment 3: Practice

Goals:

- Learn to design efficient algorithms and to implement them in a compilable programming language.
- Design and implement algorithmic structures suitable for solving different types of problems.
- Design and implement iterative algorithms.
- Identify the type of problem and apply the appropriate algorithmic strategy.
- To use a software development environment based on a high-level programming language.
- Design and implement algorithms to solve complex problems in a structured and efficient way.
- Design and implement the operations associated with the structures identified Integrate the data design in the application design.
- Design and implement appropriate data structures to represent information of each problem.

Criteria: To pass the course, the mark obtained in the practice must be ≥ 4. Percentage 15%. If the practice fails, the grade can be improved during the recovery period (week number 20).

Observations: Collection of programming exercises. Performing in groups of maximum 2 people. Presentation compulsory.

Assessment 4: Practice

Goals:

- To design and implement appropriate data structures to represent information of each problem.
- Learn to design efficient algorithms and to implement them in a compilable programming language.
- Design and implement algorithmic structures suitable for solving different types of problems.
- Design and implement iterative algorithms.
- Identify the type of problem and apply the appropriate algorithmic strategy.
- Design and implement basic algorithmic solutions using the refining design technique. Dynamic memory management using the features of its own programming language. To use a software development environment based on a high-level programming language.
- Design and implement algorithms to solve complex problems in a structured and efficient way.
- Design and implement the operations associated with the structures identified Integrate the data design in the application design.
- Design and implement appropriate data structures to represent information of each problem.

Criteria: To pass the course, the mark obtained in the practice must be ≥ 4. Percentage 25%. If the practice fails, the grade can be improved during the recovery period (week number 20).

Observations: Collection of programming exercises. Performing in groups of maximum 2 people. Presentation compulsory.

If the mark obtained in this practice ≥ 4, then it can improve the grade mark for the first practice, the weight of which is 15%.

Assessment : Written test

Goals:

- To design and implement appropriate data structures to represent information of each problem.
- Design and implement algorithmic structures suitable for solving different types of problems.
- Design and implement iterative algorithms.
- Identify the type of problem and apply the appropriate algorithmic strategy.
- Design and implement basic algorithmic solutions using the refining design technique. Dynamic memory management using the features of its own programming language. Design and implement the operations associated with the structures identified
- Design and implement appropriate data structures to represent information of each problem.

Criteria: The mark obtained in this written test will replace the mark of the two written tests of the course. Realisation Individual. Character Voluntary. Percentage 60%.

Bibliography

Basic References:

- J. Castro, F. Cucker, X. Messeguer, A. Rubio, L. Solano and B.Valles. *Curs de Programació*. McGraw-Hill, 1992.
- J.L. Balcázar. *Programación Metódica*. McGraw-Hill, 1993.
- G. Brassard and P. Bratley. *Fundamentosde Algoritmia*. Prentice Hall, 1997.
- L. Joyanes. Fundamentos de Programación. Algoritmos, Estructuras de Datos y Objetos. McGraw-Hill, 2003.

ANSI C and C++:

- H.M. Deitel and P.J. Deitel. *ComoProgramar en C/C++*. Prentice-Hall, segunda edición, 2002.
- B.W. Kernighan and D.M. Ritchie. *Ellenguaje de programación C*. Prentice-Hall, segundaedición, 1991.
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- F.Xhafa; P. Vázquez, J. Marco, X. Molinero and A. Martín. Programación en C++ paraingenieros. Paraninfo, 2006.
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Other references:

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DEGREE CURRICULUM

INTRODUCTION TO PROGRAMMING II

Coordination: Juan Manuel Gimeno

Academic year 2015-16

Subject's general information

Subject name	Introduction to Programming II
Code	102001
Semester	2n Semester Coninuous Evaluation
Typology	Troncal
ECTS credits	6
Theoretical credits	3
Practical credits	3
Coordination	Juan Manuel Gimeno
Office and hour of attention	Xavier Domingo (1.06 EPS by appointment). Juan Manuel Gimeno (wednesday at 1pm at offce 3.20 EPS; others by appointment). Toni Granollers (3.10 EPS by appointment).
Department	Informàtica i Enginyeria Industrial
Teaching load distribution between lectures and independent student work	40% lectures 60% autonomous work
Modality	Presencial
Language	Catalan 40% (lectures) Spanish 20% (notes) English 40% (bibliography)
Degree	Degree in Computer Engineering
Distribution of credits	Xavier Domingo (6) Juan Manuel Gimeno (9) Toni Granollers (3)
E-mail addresses	xdomingo@diei.udl.cat jmgimeno@diei.udl.cat antoni.granollers@udl.cat

Teaching staff

Xavier Domingo Juan Manuel Gimeno Toni Granollers

Subject's extra information

We assume the students have all the concepts of Introduction to Programming I as we buiid upon them into two directions: object-oriented programming and recursive design.

Learning objectives

- Introduce the Object Oriented Programming paradigmn
- Basic file processing
- Introduce recursive designs
- Reasoning about the validity of a solution
- Use some Java Platform APIs
- Use of the Java standard documentation
- Use of an Integrated Development Environment

Significant competences

- **Cross-disciplinary competences**
  - Capacity to solve problems and prepare and defence arguments inside the area of studies.
  - Capacity of abstraction and of critical, logical and mathematical thinking.
  - Capacity for unidisciplinary and multidisciplinary teamwork.
  - To be motivated for the quality and steady improvement.
- **Specific competences**
  - Capacity to understand and master the basic concepts of discreet mathematics, logical, algorithmic and computational complexity, and its application to solve engineering problems.
  - Basic knowledge of the use and programming of computers, operating systems, databases and computer programs with applications in engineering.
  - Knowledge of the structure, organisation, operation and interconnection of the computer systems, the basics of programming, and its application to solve engineering problems.
  - Knowledge, design and efficient use of the types and data structure more suitable for solving a problem.
  - Capacity to know, comprise and evaluate the structure and architecture of computers, as well as the basic components that conform them.

Subject contents

1. Introduction
   - From C to Java
   - The ACM Task Force Library
   - The main program
   - Using auxiliar functions
   - Arrays in Java
   - Strings in Java
2. Object Oriented Programming
   - Objects and references
   - Graphic classes in the ACM library
   - The String class
   - Class definition in Java
3. File processing
   - Types of files
   - Sequential text files
   - Random access binary files

    - MergeSort
4. Recursive design
    - Function calls
    - Thinking recursively
    - Recursivity using cursors
    - Binary search
    - Multiple recursion

Methodology

Each weesk students are notified about which sessions in the notes are to be treated and which problems are to be commented. We hope that students will proactivelly prepare before both theory and practice sessions to be aware of those part which create difficulties to them.

Development plan

Week	Theory	Problems	Projects
1	Presentation + From C to Java (1 to 3)	Netbeans	
2	From C to Java (rest)	Probs 3, 4 i 6	
3	Introduction to OOP (1 & 2)	Probs 1, 2, 5	Project 1
4	Introduction to OOP (3 & 4)	Probs 1, 2	
5	Introduction to OOP (5, 6 & 7)	Probs 2, 4, 5	
6	OOP Ampliation (8 & 9)	Probs 8, 9	Project 2
7	OOP Ampliation (10 & 11)	Probs 10, 11, 12	
8	OOP Ampliation (12 to 14)		
9	Evaluation		
10	File management in Java (1 to 3)	Javadoc	
11	File management in Java (4 to 6)	Probs 2, 3, 4	
12	File management in Java (7 & 8)	Probs 5, 6, 7	Project 3
13	Recursive design (1 to 3)	Probs 8, 9 10	
14	Recursive design (4 to 6)	Probs 1 i 2	
15	Recursive design (9 & 10)	Probs 3, 4, 5	
16	Evaluation		
17	Evaluation		
18	Tutories		
19	Evaluation		

Numbers in the Theory column correspond to the section in the handouts of the subject. Those in the Problems columns, to the numbers in the associates list of exercises.

Evaluation

- Theory:
  - 25% first midterm. Written exam consisting of programmin problems.
  - 25% second midterm. Written exam consisting of programmin problems.
  - A midtermn is passed if its grade is greater or equal than 4 (if not, it must be recovered)
    - A grade greater than or equal to 5 in the second midterm also recovers a failed first midterm
    - The first midterm grade is only taken into account if its greater than the second midterm
    - The recivering exam is unique
    - The maximun grade in the recuperations is 7.
- Pracice:
  - 15% first project. Programming project about basic java.
  - 15% second project. Programming project about object-oriented programming.
  - 20% thris project. Programming project about file manipulation.
  - The first and second projects can be recuperated at the enc with a maximum grade of 5
- If any evaluation item is detected as a copy, its grade is a nonrecoverable 0.

Bibliography

- Basic:
  - Apuntes de la asignatura (en español).
  - Eric S. Roberts, The Art & Science of Java: An Introduction to Computer Science, PearsonEducation, 2008. (hay una versión preliminar disponible en pdf).
  - Eric S. Roberts, Thinking Recuersively with Java, John Wiley & Sons, 2006.
  - Documentación de la biblioteca ACM Java Task Force http://jtf.acm.org/
- Additional:
  - Kathy Sierra y Bert Bates, Head First Java,O'Reilly, 2003.
  - Jorge A. Villalobos y Rubby Casallas, Fundamentos de Programación. Aprendizaje Activo Basado en Casos. Pearson Pentice-Hall, 2006

DEGREE CURRICULUM

COMPUTER ORGANIZATION I

Coordination: Concepció Roig Mateu

Academic year 2015-16

Subject's general information

Subject name	COMPUTER ORGANIZATION I
Code	102002
Semester	1
Typology	Basic training
ECTS credits	6
Groups	1 large group (LG) for theoretical part, 3 medium groups (MG) problems/practices of GEI, 1 MG problems/practices GEI-ADE
Theoretical credits	3
Practical credits	3
Coordination	Concepció Roig Mateu
Office and hour of attention	Concepció Roig: Friday from 13:00 h. a 14:00 h. Josep M. Solà: Friday from 13:00 h. a 14:00 h.
Department	Informàtica i Enginyeria Industrial
Teaching load distribution between lectures and independent student work	Globally, the subject has 60 hours of lecturer classes and 120 hours of independent student work.
Modality	Presencial
Language	Catalan
Degree	Degree in Computer Engineering
Distribution of credits	Attending the partition in different groups, the number of credits of each proffesor is the following. Josep M. Solà 9 Concepció Roig Mateu 6
E-mail addresses	jmsola@diei.udl.cat roig@diei.udl.cat

Teaching staff

Josep M. Solà Concepció Roig Mateu

Subject's extra information

The course as part of the academic plan

Subject to be held during the first semester in the first course of the degree. It belongs to the main subject of Computer Organization inside the module of Basic Training.

To follow up the subject no previous knowledge of digital circuits is required. The knowledge adquired in the post-compulsory secondary eduaction will be enough.

Learning objectives

- Learning the ways to represent information in a computer system and the mechanisms to manage this information.
- Studying the operation of the combinational and sequential modules and their function inside a computer
- Developing of the analysis and design processes of combinational and sequential circuits.
- Solving of circuits and ability of analysing several proposal.

Significant competences

University of Lleida strategic competences

Degree-specific competences

- Knowledge of the structure, organization, workings and inter-connexion of computer systems, the basis of their programming, and their applications in the resolution of engineering problems.
- Ability to know, understand and evaluate computer structures and architecture, as well as the basic components which constitute them.

Degree-transversal competences

- Ability to resolve problems and elaborate and defend arguments inside their field of study.
- Ability to work in a unidisciplinary and multidisciplinary team.

Subject contents

1. Binary codification of the information

1.1. Binary codification

1.2. Number systems

1.3. Binary arithmetic

1.4. Signed number representation

1.5. Alphanumeric codes

2. Logic functions

2.1. Switching algebra

2.2. Logic gates

2.3. Logic functions

2.4. Minimization of logic functions

2.5. Incompletely specified functions

3. Combinational circuits

3.1. Two level gate structures

3.2. Analysis and design of combinational circuits.

3.3. Combinational systems.

3.3.1. Decoder

3.3.2. Encoder

3.3.3. Multiplexer

3.3.4. Demultiplexer

3.3.5. Comparator

4. Sequential circuits

4.1. Basic memory cell

4.2. Flip-flops

4.3. Direct set/reset

4.4. Analysis aof sequential circuits

4.5. Design of sequential circuits

4.6. Basic sequential systems

4.6.1.Registers

4.6.2.Counters

Methodology

Classes are divided in different groups, big group (GG), where they attend all the students of the subject and medium group (GM) where there only assist part of the students. The contents of the different kind of groups are divided in the following way:

GG: They are expositive classes where they are shown the main contents on the subject.

GM: they are classes to solve exercices related to the contents exposed in the GG classes, in a participative and interactive way. they also carry out lab practices to solve digital circuits with the simulator ISIS of Proteus.

Practical activities:

- Design of a combinational circuit to carry out a specific function.

- Design of a sequential circuit that passes for a predetermined sequence of states..

Development plan

Week 1: Binary codification of the information. 2 h. theory + 2 h. problems.

Week 2: Binary codification of the information. 2 h. theory + 2 h. problems.

Week 3: Logic functions. 2 h. theory + 2 h. problems.

Week 4: Logic functions. 2 h. theory + 2 h. problems.

Week 5: Logic functions. 2 h. theory + 2 h. problems..

Week 6: Logic functions. 2 h. theory + 2 h. problems..

Week 7:Combinational circuits. 2 h. theory + 2 h. problems

Week 8: :Combinational circuits. 2 h. theory + 2 h. problems

Week 9. Partial evaluation activities.

Week 10: :Combinational circuits. 2 h. theory + 2 h. problems.

Week 11: :Combinational circuits. 2 h. theory + 2 h. practices of laboratory.

Week 12: Sequential circuits. 2 h. theory + 2 h. problems.

Week 13: Sequential circuits. 2 h. theory + 2 h. problems.

Week 14: Sequential circuits. 2 h. theory + 2 h. problems.

Week 15:Sequential circuits. 2 h. theory + 2 h. practices of laboratory.

Weeks 16 and 17. Partial evaluation activities.

Week 18. Seminars.

Week 19. Recuperation evaluation activities.

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Evaluation

N_P1: mark first partial exam.

N_P2: mark second partial exam

N_Pr: practices mark

The final mark of the subject is calculated with the following expression:

FINAL_MARK = maximum(30% N_P1 + 50% N_P2, 80% N_Pr2) + 20% N_Pr

To pass the subject it is necessary that FINAL_MARK is grater than or equal to 5.

In the case of not passing the subject, ther is the option to do a recuperation exam. In this case the FINAL_MARK is calculated as:

N_rec: mark of the recuperation exam

FINAL_MARK = 80% N_rec + 20% N_Pr

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· Floyd T. *Fundamentos de sistemas digitales*. Prentice-Hall.

· Hammacher C., Vranesic Z., Zaky S. *Organización de computadores* (5ªedición). McGraw-Hill.

· Ercegovac M.D., Lang T. *Digital Systems and Hardware/Firmware Algorithms*. Jhon Wiley and Sons.

· Gascón M., Leal A., Peinado B. *Problemas pràcticos de diseño lògico*. Paraninfo.

DEGREE CURRICULUM

COMPUTER ORGANIZATION II

Coordination: Francesc Giné

Academic year 2015-16

Subject's general information

Subject name	COMPUTER ORGANIZATION II
Code	102003
Semester	2nd Semester
Typology	Mandatory
ECTS credits	6
Groups	There is a main group, where the theory is explained, and 4 small groups, where the problems and practices are carried out.
Theoretical credits	0
Practical credits	0
Coordination	Francesc Giné
Office and hour of attention	Francesc Giné: Thursday, from 16h to 17h in the 3.09 office of the EPS Albert Saiz: Wednesday, from 17h to 18h in the 1.06 office of the'EPS
Department	Computer and Industrial Engineering
Modality	Presencial
Language	Catalan
Degree	Degree in Computer Engineering
Distribution of credits	Albert Saiz: 9 Francesc Giné: 6
E-mail addresses	asaiz@diei.udl.cat sisco@diei.udl.cat

Teaching staff

Albert Saiz Francesc Giné de Sola

Subject's extra information

To follow this subject properly some previous knowledge/skills on computer organization are recommended. According to this, it must have taken the subject of Computer Organization I, which is scheduled in the first semester of the first course.

Learning objectives

Associated with the competences of the degree:

- Implement simple programs written in assembly language.
- Meet the structure of an assembly simple program.
- Identify, differentiate and understand its operation, the components of a computer, as well as the basic structure of Von-Neumann.
- Know the phases of instruction execution.
- Be able to propose a basic structure for an instruction set.
- Know and understand the fields that make a instruction. As access data and how this information is encoded in an instruction.
- Identify the components of the control unit and their interaction.
- Understand and differentiate the wired and microprogrammed implementation of a control unit.
- Be able to define the behavior of the control unit.
- Know the memory hierarchy and understand how and where to act the main memory of a computer.
- Be able to propose a basic structure for the main memory of a computer.
- Identify and understand the system input / output within the structure of a computer.
- Differentiating components of peripheral input / output as well as its interaction with the CPU.
- Know the timing and mechanism of transfer of E / S.

Associated with generic skills:

- help other group members if necessary.
- Be able to justify the solution adopted.
- Find the best solution in a given time.
- Identify the knowledge base involved in solving the problem.

Significant competences

Degree-specific competences

- GII-FB3: Capacity to understand and master the basic concepts of discreet mathematics, logical, algorithmic and computational complexity, and its application to solve engineering problems.
- GII-FB4: Basic knowledge of the use and programming of computers, operating systems, databases and computer programs with applications in engineering.
- GII-FB5: Knowledge of the structure, organisation, operation and interconnection of the computer systems, the basics of programming, and its application to solve engineering problems.
- GII-CR17: Knowledge, design and efficient use of the types and data structure more suitable for solving a problem.
- GII-CR19: Capacity to know, comprise and evaluate the structure and architecture of computers, as well as the basic components that conform them.

Degree-transversal competences

- EPS1: Capacity to solve problems and prepare and defence arguments inside the area of studies.
- EPS5: Capacity of abstraction and of critical, logical and mathematical thinking.
- EPS9: Capacity for unidisciplinary and multidisciplinary teamwork.
- EPS12: To be motivated for the quality and steady improvement.

Subject contents

1.- Introduction (4h F + 4h NF)

1.1. Structure of a Von-Neumann Computer

1.2. Interconnection Structures.

1.3. Instruction Cycle

2.- Instruction set (16h F + 28h NF)

2.1. Introduction.

2.2. Formats

2.3. Addressing modes

2.4. Types of operations.

2.5. KIT Simulator.

3. Control Unit (12h F + 24h NF)

3.1. CPU structure and Functions

3.2. Hardwired Control Unit.

3.3. Microprogrammed Unit.

4. Memory Unit (12h F + 20h NF)

4.1 Global Concepts

4.2 Memory hierarchy.

4.3 Internal Memory

5. Input/Output System (12h F + 24h NF)

5.1. General I/O system.

5.2.Addressing I/O.

5.3.- Control / synchronization l'E / S: Check state and interruptions.

5.4. Access to I/O Data: Program-Driven and Direct Memory Access.

P: Face-to-face NP:Non Face-to-cace

Methodology

Each week students will receive:

- Two hours of class in the main group, where the the theoretical contents are explained, accompanied by illustrative examples. As a support material of the class will follow the slides of the subject.
- Two hours of class in small groups, where we alternate resolving problems associated with the collection of theoretical explanations of the subject, along with practices.

The evaluation will be continuous and comprises four different tests:

- Two written tests.
- Two practical tests.

Development plan

- Week 1: Unit 1 Introduction.
- Week 2-5: Unit 2 Instructions Set
- Week 5-8: Unit 3 Control Unit
- Week 8: First Practice evaluable
- Week 9: First exam
- Week 10-12: Unit 4 Memory Unit
- Week 12-15: Unit 5 Input/Output Unit
- Week 15: Second practice evaluable
- Week 16-17: Second exam
- Week 19: Recovery exam.

Evaluation

The evaluation will be continuous and consists of the following four tests with the folowing percentages of the final grade:

- First evaluable practice: 15%
- First partial exam: 30%
- Second evaluable practice: 15%
- Second partial exam: 40%

Therefore, the final grade for the course will be:

Final Mark = 15% First evaluable practice + 15% Second evaluable practice + 30% First partial examination + 40% Second partial exam.

The practices of the previous year are recognized on maintaining the same marks than in the previous year.

Those students who do not pass the continuous assessment with a score equal to or greater than 5 will be entitled to a recovery exam, which will count 70% of the final mark. In this case, the final mark will be:

Final Mark = 15% First evaluable practice+ 15% Second evaluable practice + 70% Recovery exam.

Bibliography

Basical Bibliography

- *Organización y Arquitecturade Computadores.* (7ª edición)

  Stallings W., EditorialPrentice Hall, 2006.

- *Apunts de l'Assignatura*.

  Francesc Giné. Apartat de Recursos de Sakai

Extended bibliography:

- *Estructura y Diseño de Computadores. La interfaz hardware/Software.* (4ª edición)

  Patterson D.A., Hennesy J.L, Edit. Reverte, 2011.

- *The Principles of Computer Hardware*

  Clements, A. Editorial OxfordUniversity Press.

- *Organización de computadores*(5ª edición)

  Hammacher C., Vranesic Z.,Zaky S., McGraw-Hill.

DEGREE CURRICULUM

COMPUTATIONAL LOGIC

Coordination: Course taught during the first semester of the first year of the degree.
It corresponds to the Subject "Computers " in the module "Basic Training " .

Academic year 2015-16

Subject's general information

Subject name	Computational Logic
Code	102004
Semester	first semester
Typology	Compulsory
ECTS credits	6
Groups	1 Grup Gran en el GEI i en el GEIADE. 3 Grups reduïts en el GEI i 1 Grup reduït en el GEIADE.
Theoretical credits	2
Practical credits	4
Coordination	Course taught during the first semester of the first year of the degree. It corresponds to the Subject "Computers " in the module "Basic Training " .
Office and hour of attention	Maria Teresa Alsinet Bernadó Contact me to arrange a mutually suitable time
Department	Informàtica i Enginyeria Industrial
Teaching load distribution between lectures and independent student work	A les sessions amb Grup Gran presentem els sistemes lògics clàssics: la lògica proposicional i la lògica de primer order. Per a cada sistema lògic es proposa una col.lecció d'exercicis teòrico-pràctics els quals permeten assolir els objectius d'aprenentatge. El treball autònom de l'estudiant consisteix en la resolució dels exercicis proposats. A les corresponent sessions de Grup Gran orientades a problemes i de Grup Reduït s'analitzen les solucions proposades i es resolen els problemes trobats. Finalment, a les sessions de Grup Reduït es dona suport a les pràctiques obligatories que ha de desenvolupar l'estudiant al llarg de l'assignatura de forma autònoma.
Modality	Presencial
Language	Catalan
Degree	Degree in Computer Enginneering
Distribution of credits	Every week the student attends to two physical classes of the Large Group and 2 hours with the Small Group. Small Group Sessions will be taught in the laboratory. At Large Group we present the classical logical systems : propositional logic and first order logic . For each logical system a collection of theoretical and practical exercises that achieve learning objectives proposed . The independent work of the student is the resolution of the proposed exercises . At Large Group sessions oriented to problems and Small Group sessions, the proposed solutions are analyzed and doubts are addressed. Finally, in Small Group sessions we give support to complete the mandatory lab exercises.
E-mail addresses	tracy@diei.udl.cat

Teaching staff

Maria Teresa Alsinet Bernadó

Subject's extra information

To follow this subject properly skills on analysis and logical reasoning are recommended.

For any question, please, send an email to the teachers.

Learning objectives

Al the end of the course, the student will be able to:

- Model sentences in propositional logic.

- Reason about the validity of propositional logic formulas.

- Apply systems of automatic reasoning to propositional logic formulas.

- Model sentences in first order logic.

- Reason about the validity of first order logic formulas.

- Apply systems of automatic reasoning to first order logic formulas.

- Apply the foundations of declarative programming.

- Apply automated reasoning logic systems of propositional and first order logics to mathematical and computer science problems.

Significant competences

University of Lleida strategic competences

- Master Information and Communication Technologies.

Goals

- Use a SAT solver.
- Use a development framework for logic programming based on the Prolog interpreter.

Degree-specific competences

- Ability to understand and master the basic concepts of discrete mathematics, logic, algorithm and computational complexity, and their application to the resolution of engineering problems.

Goals

- Model sentences in propositional logic.
- Reason about the validity of propositional logic formulas.
- Apply systems of automatic reasoning to propositional logic formulas.
- Model sentences in first order logic.
- Reason about the validity of first order logic formulas.
- Apply systems of automatic reasoning to first order logic formulas.
- Apply the foundations of declarative programming.

- Apply automated reasoning logic systems of propositional and first order logics to mathematical and computer science problems.

Degree-transversal competences

- Ability for abstraction and critical, logical and logical reasoning.

Goals

- Model sentences as logic formulas. Identify the most suitable formalism depending of the structure of the sentence.
- Reason about the validity of logic formulas. Automate proof systems.

- Ability to resolve problems and elaborate and defend arguments inside their field of study.

Goals

- Model sentences as logic formulas. Identify the most suitable formalism depending of the structure of the sentence.
- Reason about the validity of logic formulas. Automate proof systems.

Subject contents

The contents of the subject are the following:

Theme 1: Introduction to Logic Systems and Automated Reasoning

Theme 2: Propositional Logic

Theme 3: First Order Logic

Theme 4: Logic Programming

Theme 2: Propositional Logic:

- Syntax, Semantics and Truth Tables
- Taxonomy of Sentences (satisfiable, unsatisfiable and tautology)
- Logic Equivalence, Equisatisfiability and Logic Consequence
- Modelling Sentences
- Normal Forms: Translations into Clausal Form
- Resolution Principle
- Automated Reasoning to Prove Validity of Formulas

Theme 3: First Order Logic:

- Syntax and Semantics
- Taxonomy of Sentences (satisfiable, unsatisfiable and tautology)
- Logic Equivalence
- Modelling Sentences
- Substitution, Composition of Substitutions and Application of Substitutions to Expressions
- Unification of Expressions and Most General Unifier
- Normal Forms: Translations into Clausal Form
- Resolution Principle
- Automated Reasoning to Prove Validity of Formulas

Theme 4: Logic Programming

- Logic Programs

- SLD Resolution
- Introduction to Prolog

Methodology

The course contents are divided into two blocks. The first block presents the logical system of propositional logic . The second presents the logical system of logic predicates. For each logical system we study: the syntax and semantics of the language and the proof procedure based on resolution . Additionally, for each system we study how to model problems and use state-of-the-art tools for solving them . In this sense, for propositional logic we use SAT solvers and Prolog for predicate logic .

For each block we propose a collection of problems that student must solve independently. This work is supervised during the Large Group and Medium Group sessions.

Development plan

Week 1:

Topic 1: Presentation of the subject . Introduction to the subject: Formal languages and logical systems . Syntax, semantics and proof procedures . Topic 1: Introduction to Logic Systems and Automated Reasoning

Total physical hours : 2 hours (1 session GG)

Total autonomous work hours : 3 h

Weeks 2-7:

Topic 2: Propositional Logic : Syntax, Semantics and Truth Tables • Classification of statements (satisfiable , unsatisfiable and tautology) • Equivalence logic and logical consequence, equisatisfiability • Modeling • Transformation of statements in Normal Forms : Form clausal • Resolution principle Demonstration automatic validity of statements

Total hours: 22 hours (5 sessions 6 sessions GG and GP)

Total non-contact hours : 33 h

Description:

Introduction to user environment: interpreters, simulators and solvers to use .

Total contact hours : 2 hours (one session in GP)

Total non-contact hours : 3 hours

Description:

Description and organization of the first compulsory lab activity (15% of the final mark) .

Total contact hours : 2 hours

Total non-contact hours : 3 hours

Week 9:

Evaluation activity : 1 written test (35%) - Release of the first mandatory practice (15%)

Total contact hours : 2 hours

Total non-contact hours : 3 h

Weeks 8,10,11,12:

Topic 3: First Order Logic : Syntax and Semantics • Classification of statements (satisfiable , unsatisfiable and tautology) • Logic Equivalence • Modeling • substitutions, compositions and application of substitutions • Unification amd most general

unifier • Transformation into Conjunctive Normal Form : Resolution principle • Automatic demonstration of validity of statements

Total hours: 18 h 0 m (5 sessions GG)

Total non-contact hours : 27 h 0 m

Description:

Description and organization of the 2nd mandatory lab activity (15 %) .

Total contact hours : 2 hours (1 session GP) T

Total non-contact hours : 3 h

Weeks 14,15:

Topic 4: Logic Programming • Programs • Resolution • Introduction to SLD Prolog

Total hours: 6 pm (two sessions and one session GG GP)

Total non-contact hours : 9 am

Weeks 16,17:

Evaluation activity : 2nd written test (35%) - Release of the second compulsory lab activity (15 %). week 17/18

Week 19:
Evalaution activity: recovery exams of first written exam (35%) and second written exam (35%). Optional. .

Evaluation

Activity Written exam

Week 9

Percentatge 35% **Type** Compulsory / Individual

Evaluation:

The activity will be evaluated over 10 punts . To approve the subject the mark obtained in this written test must be > = 3 .

Objectives

- Model sentences in propositional logic.
- Reason about the validity of propositional logic formulas.
- Apply systems of automatic reasoning to propositional logic formulas.

Activity Laboratory activity

Week 9

Percentatge 15% **Type** Compulsory / Group

Evaluation:

The activity will be evaluated over 10 punts . This activity can not be recovered.

Objectives

- Use a SAT solver.
- Model sentences as logic formulas.
- Reason about the validity of logic formulas.
- Automate proof systems.
- Reason about proof systems.
- Apply proof systems.
- Apply automated reasoning logic systems of propositional logic to mathematical and computer science problems.

Activity Written exam

Weeks 16-17

Percetatge 35% **Type** Compulsory / Individual

Evaluation:

The activity will be evaluated over 10 punts . To approve the subject the mark obtained in this written test must be > = 3 .

Objectives:

- Model sentences in first order logic.
- Reason about the validity of first order logic formulas.
- Apply systems of automatic reasoning to first order logic formulas.

Activity Laboratory activity

Week 16

Percentatge 15% **Type** Compulsory / Group

Evaluation:

The activity will be evaluated over 10 punts . This activity can not be recovered.

- Use the Prolog environment.
- Model sentences as logic formulas.
- Reason about the validity of logic formulas.
- Automate proof systems.
- Reason about proof systems.
- Apply proof systems.
- Apply automated reasoning logic systems of first order logic to mathematical and computer science problems.

Recovery of written exams:

Evaluation

If the final grade in the course is < 5, then the student can decide to recover the 70% represetend by the written exams. In this case, the student must have completed the two laboratory activities with a mark each >= 3, and he/she must have presented the two written exams. The recovery exam will be evaluated over 10 points. To pass the subject the mark obtained in the written test must be > = 3 . The weight of this recovery exam in the final grade is 70 %.

Bibliography

B*asic References:*

- *Teresa Hortalá, Narciso Martí, Miguel Palomino, Mario Rodríguez, Rafael del Vado. Lógica matemática par informáticos. Pearson, Prentice Hall, 2008.*
- *Paniagua E., Sánchez J.L. y Martín F.: Lógica Computacional. Thomson-Paraninfo, 2003.*
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- Pascual Julián Iranzo and María Alpuente Frasnedo. Programación Lógica: Teoría y Práctica Pearson PrenticeHall, 2007.
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- I. Bratko. Prolog Programming for Artificial Intelligence (2nd. ed.). Addison-Wesley, 1990.
- Sterling y Shapiro: The Art of Prolog. MIT Press, 1994.

Complementary Bibliography

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- Genessereth: Logical Foundations of Artificial Intelligence. Genessereth and Nilsson, Morgan Kaufmann Publishers, 1987.
- Cuena, J.: Lógica Informática TOMO II: Lógica Computacional. Publicaciones FIM, 1999.
- Tymoczko T. and Henle J.: Razón, dulce razón. Una Guía de Campo de la Lógica Moderna. Ariel, 2002.

DEGREE CURRICULUM

ALGEBRA

Coordination: Josep M. Miret

Academic year 2015-16

Subject's general information

Subject name	ALGEBRA
Code	102005
Semester	1st
Typology	Compulsory
ECTS credits	6
Groups	GGA, GGB i GEIADE
Theoretical credits	3
Practical credits	3
Coordination	Josep M. Miret
Office and hour of attention	Agree an appointment by e-mail.
Department	Mathematics
Teaching load distribution between lectures and independent student work	1,5 hour of autonomous study work for each 1-hour-lecture
Modality	Presencial
Language	Catalan, preferably
Degree	Degree in Computer Engineering
Distribution of credits	Josep M. Miret Biosca GEI 6 ECTS Maria Magdalena Valls Marsal GEI 6 ECTS, GEIADE 6 ECTS
E-mail addresses	miret@matematica.udl.cat magda@matematica.udl.cat

Teaching staff

Josep M. Miret Biosca Maria Magdalena Valls Marsal

Subject's extra information

Previous knowledge/skills on basic mathematics (General Upper Secondary Education level) are recommended.

This subject is scheduled in the fall semester of the 1st year.

Learning objectives

The learning outcomes for this course are:

- Appropiately use set operations, both to simplify expressions or to prove equalities.
- Recognize equivalence and order relations (total and partial).
- Obtain the quotient set and the equivalence classes.
- Determine the characteristic elements in an ordered set.
- Distinguish injective, exhaustive and bijective maps.
- Manipulate the composition of maps and inverse maps.
- Apply mathematical induction to show different mathematical statements.
- Determine the properties of a given algebraic structure.
- Recognize the algebraic structures of group, ring and field.
- Adequately use the elements in modular arithmetic.
- Solve diophantine equations and linear congruencies.
- Adequately use Fermat's and Euler's Theorems.
- Encrypt and decrypt with the RSA cryptosystem.

Significant competences

Specific competences

- Capacity to solve mathematical problems arisen in the engineering field. Aptitude to apply knowledge on: linear algebra; differential and integral calculus; numerical methods; algorithmic, numerical; statistics and optimisation.
- Capacity to understand and master the basic concepts of discreet mathematics, logical, algorithmic and computational complexity, and its application to solve engineering problems.

Cross-disciplinary competences

- Capacity of abstraction and of critical, logical and mathematical thinking.
- Capacity to solve problems and prepare and defence arguments inside the area of studies.

University strategic competences

- Acquire knowledge in scientific thinking.

Subject contents

I. SET THEORY

1. Sets.

• Sets and elements. Subsets.

• Set operations.

• Laws of the algebra of sets.

• Partition of a set.

• Cartesian product.

2. Relations

• Relations in a set: definitions and examples.

• Equivalence relations. Equivalence classes and quotioent set.

• Order relations. Characteristic elements.

• Hasse diagram to represent an ordered set.

3. Maps.

• Map between sets: definitions and examples.

• Injective, surjective and bijective maps.

• Composition of maps.

• Inverse map.

4.Induction and denumerability

• Mathematical induction.

• Infinite sets and denumerable sets.

II. ALGEBRAIC STRUCTURES AND ARITHMETIC

5. Algebraic structures.

• Algebraic composition laws. Properties.

• Group structure: definitions, properties, examples.

• Ring and field structures: definitions, properties, examples.

6. Modular arithmetic.

•Division of integers. Divisors and multiples.

•Greatest Common Divisor. Euclidean algorithm. Bézout's identity.

•Linear diophantine equations.

•Prime numbers. Fundamental theorem of arithmetic.

•Congruences. Linear congruences.

•Chinese remainder theorem.

•Modular exponentiantion. Fermat's and Euler's Theorems.

•Introduction to cryptography: RSA cryptosystem

Methodology

Theoretical and practical contents are mixed for the sake of combining basical aspects with illustrative examples and problem solving.

Problem solving combines joint resolution on the blackboard or individual resolution. Some sessions will be devoted to group problem solving. Proposed problems are either solved and presented by students, or collected to be assessed.

Development plan

The following table shows the expected amount of hours devoted to each lesson:

Lesson	Theoretical concepts	Problem solving	Independent student work
1	5	3	12
2	4	4	12
3	3	3	9
4	2	2	6
5	5	6	15
6	6	6	18

Evaluation

Planned tests:

- C1 - Control 1:
  - Lesson 1.
  - Among 3rd and 5th weeks.
  - Value: 1 point
- P1 - Exam 1:
  - Lessons 1, 2, 3
  - 9th week
  - Value: 4 points
- C2 - Control 2:
  - Lesson 4.
  - Among 12h and 14h weeks.
  - Value: 1point
- P2 - Exam 2:
  - Lessons 4, 5 i 6
  - Among 16th and 17th weeks.

- Value: 4 points.

To compute the final mark the minimum marks in P1 and P2 are: P1 >= 1 point i P2 >= 1 point.

The student can obtain an additional point to the final mark, according to the following concepts:

- Participation: 0.5 punts
- Complementary activitities : 0.5 points (complementary reading or attending mathematic-related conferences or exhibitions)

Final Mark = C1 + P1 + C2 + P2 + AD

Bibliography

Books including problems

- ALSINA, M; BUSQUÉ, C; VENTURA, E. Problemes d' Àlgebra. Servei de Publicacions de l'U.A.B., 1990.
- BIJEDIC, N; GIMBERT, J; MIRET,J.M; VALLS, M. Elements of Discrete Mathematical Structures for ComputerScience. Univerzittska knjiga Mostar, 2007.
- ESPADA, E. Problemas resueltos de Álgebra (Vol I,II). EDUNSA, 1989.
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Theory books

- ANTON, H. Introducción al Álgebra Lineal. Ed. Limusa, 3a. edició, 1990.
- CASTELLET, M; LLERENA, I. Àlgebra Lineal i Geometria. Manuals de la Universitat Autònomade Barcelona, 1979.
- CHILDS, L. A Concrete Introduction to HigherAlgebra. Springer, 1a. edició, 1979.
- STANAT, D.F.; McALLISTER, D.F. DiscreteMathematics in Computer Science, Prentice-Hall, 1a. Edició.

Recommended reading

- SINGH, S. Los códigos secretos. Ed. Debate, 2000.

DEGREE CURRICULUM

STATISTICS AND OPTIMIZATION

Coordination: Josep M. Miret

Academic year 2015-16

Subject's general information

Subject name	STATISTICS AND OPTIMIZATION
Code	102006
Semester	2n
Typology	Compulsory
ECTS credits	9
Theoretical credits	4.5
Practical credits	4.5
Coordination	Josep M. Miret
Office and hour of attention	Appointment by email.
Department	Mathematics
Teaching load distribution between lectures and independent student work	1,5 hour of autonomous study work for each 1-hour-lecture
Modality	Presencial
Language	Catalan, spanish.
Degree	Degree in Computer Enginneering
Distribution of credits	Nacho Lopez Lorenzo 4.5 Josep M. Miret Biosca 4.5 Jordi Pujolàs Boix 4.5 Francisco Sebé Feixas 4.5
E-mail addresses	nlopez@matematica.udl.cat miret@matematica.udl.cat jpujolas@matematica.udl.cat fsebe@matematica.udl.cat

Teaching staff

Nacho Lopez Lorenzo Josep M. Miret Biosca Jordi Pujolàs Boix Francisco Sebé Feixas

Subject's extra information

Previous knowledge/skills on basic mathematics (General Upper Secondary Education level) are recommended.

The course is part of the academic plan. This subject is given during the second semester in the first course. It corresponds to the basic training modulus.

Learning objectives

- Compute the derivative of univariate functions and partial derivatives of a multivariate function.
- Determine and characterize function extreme points.
- Use of integration methods.
- Distinguish the type of data representing a data set.
- Compute representative values of a data set.
- Apply the linear regresion model to numerical data.
- Manipulate properly operations among happenings.
- Apply the total probability and Bayes theorems.
- Distinguish discrete and continuous random variables.
- Compute the mean and variance of a random variable.
- Compute probabilities from density and distribution functions.
- Be able to determine the convergence of numerical series.
- Employ numerical methods for integration and equation systems solving.

Significant competences

List of the Strategic Competitions of the UdL according to the “Plan Director de la Docència” approved by the Government Council of UdL on July 10th, 2007.

- Acquire knowledge in scientific thinking.

Cross-disciplinary competences approved by the Plenary Commission of the Degrees of Industrial Engineering, Computer Engineering and Building Engineering, gathered on June 16th, 2008.

- Capacity to solve problems and prepare and defence arguments inside the area of studies.
- Capacity of abstraction and of critical, logical and mathematical thinking.

Specific competences that the students have to acquire in the degree in Computer Engineering set in the Royal decree 1393/2007, of October 29th.

- Capacity to solve mathematical problems arisen in the engineering field. Aptitude to apply knowledge on: linear algebra; differential and integral calculus; numerical methods; algorithmic, numerical; statistics and optimisation.
- Capacity to understand and master the basic concepts of discreet mathematics, logical, algorithmic and computational complexity, and its application to solve engineering problems.

Subject contents

Part I. Optimization.

Chapter 1. Real and complex numbers.

- Real numbers: the absolute value.
- Representations of the complex numbers.
- Operations with complex numbers.
- n-th roots.

Chapter 2. Matrix theory, determinants and systems of linear equations.

- Matrix operations.
- Invertible matrices.
- Equivalent matrices and rank of a matrix.
- Determinants: definition, properties and effective computation.
- Systems of linear equations: matrix formulation.
- Rouché-Frobenius Theorem.
- Gauss method.

Chapter 3. Derivatives and optimization.

- Derivative function at a point.
- Geommetric interpretation.
- The derivative: properties.
- Derivative of elemental functions.
- Univariate optimization.
- Partial derivatives and Hessian matrix.
- Multivariate optimitzation.

Chapter 4. Numerical sequences and series.

- Sequences. Limit and convergence.
- Sequence manipulation. Indeterminates.
- Numerical series. Convergence.
- Geometric sequences.

Part II. Statistics.

Chapter 5. Data set description.

- Qualitative and quantitative data.
- Representative values.
- Graphical representation.

Chapter 6. Probability.

- Set operations.
- Random events.
- Concept of probability.
- Conditional probability.
- Total probability and Bayes Theorems.

Chapter 7. Univariate random variables.

- Discrete random variables: mean and variance.
- Uniform discrete distribution.
- Bernouilli and Binomial distributions.
- Poisson distribution.
- Geometric distribution.
- Basic theory of integral calculus.
- Continuous random variables.
- Mean and variance.
- Uniform, exponential and normal distributions.

Chapter 8. Bidimensional description.

- Relation between two numerical variables.
- Linear correlation coefficient. Linear regression model.
- Relation between two ordinal variables.
- Spearman's rank correlation coefficient.

Methodology

Theoretical and practical contents are mixed to combine basic aspects with illustrative examples. Practical lectures include joint student-lecturer sessions and individual-group sessions, and also sessions with the open symbolic package R.

Development plan

The following table shows the estimated hours of dedication per chapter:

Chapter	Theory classroom	Practice classroom	Individual work
1	8	6	21
2	6	4	15
3	10	6	24
4	4	2	9
5	4	4	12
6	4	4	9
7	10	8	27
8	3	3	9

Evaluation

The final grade is obtained as follows:

- written exam of chapters 1,2,5,6 (4 points)
- written exam of chapters 3,4,7,8 (4 points)
- written test of chapter 1 (1 point)
- coding exercises with R software package (1 point)

The minimum mark in the written exams has to be at least of 1 point each.

There is an extra 0.5 points obtainable for class participation.

Bibliography

Basic

Optimitzation:

•Aguiló, F., Boadas, J. y otros. Temes Clau de Càlcul. Edicions de la UPC,Barcelona, 1991.

•Cardona, M.,Grau, M., Hernández, X., Miret, J., Moreno, R. i Pujolàs, J. Quadern de Càlcul (resums i problemes). Quaderns EPS-80.

•Demidovich, B.P. 5000 Problemas de análisis matemático. Madrid, Paraninfo, 1989.

•Garcia, F. y Gutiérrez, A. Cálculo infinitesimal-II. Tomos 1 y 2. Pirámide, 1985.

•Granero, F. Ejercicios y problemas de Cálculo, 2 vols. Ed. Tébar Flores, Madrid, 1991.

•Gimbert, J., Hernández, X., López, N., Miret, J., Moreno, R, i Valls, M. Curs Pràctic d'Àlgebra per a Informàtics, Col.lecció Eines. Edicions de la Universitat de Lleida, 2004.

•Tébar, E. Problemas de cálculo infinitesimal, 2 vols. Ed. Tébar Flores, Madrid, 1987.

Statistics:

•Casas, J., García, C., Rivera, L. y Zamora, A. Problemas de Estadística descriptiva, probabilidad y inferencia. Pirámide, 1998.

•Colomer, M.A. y Latorre, R. Curs d'estadística. Problemes. Edicions de la Universitat de Lleida, 1999.

•Peña, D. Fundamentos de estadística. Alianza editorial, 2001.

•Spiegel M. R., Schiller, J. and Srinivasan R. A. Probabilidad y estadística. McGrawHill. 3ª edición. 2009.

Additional

•Gentle, J. Random number generation and Monte Carlo methods.Springer, 1998.

•Gnedenko, B. Teoria de las probabilidades. Ed. Rubiños, 1995.

•Ortega, J.M. Introducció a l'anàlisi matemàtica. Universitat Autònoma de Barcelona, Bellaterra, 1990.

• Spivak, M. Calculus. Reverté. Barcelona, 1989.

DEGREE CURRICULUM

DISCRETE MATHEMATICS.

Academic year 2015-16

Subject's general information

Subject name	Discrete Mathematics.
Code	102007
Semester	First semester.
Typology	Troncal
ECTS credits	6
Groups	The full group and three other small groups
Theoretical credits	3
Practical credits	3
Office and hour of attention	Tuesday from 10:00 to 12:00 am in office number 1.20 (EPS building)
Department	Matemàtica
Modality	Presencial
Language	Spanish, catalan.
Degree	Degree in Computer Enginneering/ Double degree GEIADE
Distribution of credits	Credits are distributed uniformly among theoretical credits and practical ones. The theoretical concepts are explained during the two hours devoted to the full group, meanwhile the exercises are played during the two hours in small groups.
E-mail addresses	nlopez@matematica.udl.es

Teaching staff

Nacho Lopez Lorenzo

Subject's extra information

Discrete mathematics is the study of mathematical structures that are fundamentally discrete rather than continuous. Mathematically speaking, the term discrete means that the elements are somehow split away between them. For instance, integers and discrete algebra are part of discrete mathematics (and they have been introduced in Algebra subject). Combinatorics and graph theory are also discrete mathematics and they are part of this subject. Besides, there are many others topics in discrete mathematics, like code theory, cryptography, etc. but they appear in other subjects of the degree. The main reason to put combinatorics and graph theory in this subject is because they have a lot of applications in computer science. This course is splitted in two parts: one devoted to several contents of Graph Theory and the second one devoted to a brief introduction to Combinatorics.

To follow this subject properly some previous knowledge on basic Algebraic group theory is recommended.

Learning objectives

Utilization of graph representation to model problems.

Graph Isomorphism problem

Aplication of strategies depth first search and breadth first search.

Connectivity on graphs.

Distance on graphs and related concepts.

Short path algorithms

Eulerian and hamiltonian graphs

Trees and their elementary properties

Basic concepts about coloring and planarity of graphs

Elementary combinatorics.

Significant competences

Strategic Competitions of the UdL according to the “Plan Director de la Docència” approved by the Government Council of UdL on July 10th, 2007.

- CT5. Acquire knowledge in scientific thinking.

Cross-disciplinary competences approved by the Plenary Commission of the Degrees of Industrial Engineering, Computer Engineering and Building Engineering, gathered on June 16th, 2008.

- EPS1. Capacity to solve problems and prepare and defence arguments inside the area of studies.
- EPS5. Capacity of abstraction and of critical, logical and mathematical thinking.

Specific competences that the students have to acquire in the degree in Computer Engineering set in the Royal decree 1393/2007, of October 29th

- GII-FB1. Capacity to solve mathematical problems arisen in the engineering field. Aptitude to apply knowledge on: linear algebra; differential and integral calculus; numerical methods; algorithmic, numerical; statistics and optimisation.
- GII-FB3. Capacity to understand and master the basic concepts of discreet mathematics, logical, algorithmic and

computational complexity, and its application to solve engineering problems.

Subject contents

I. BASICS ON GRAPH THEORY

1. Graphs and related objects.

1.0 Graph as mathematical models.

1.1 Definition of a graph.

1.2 Degree of a vertex. Hand shaking lemma.

1.3 Graph representations.

1.4 Graph isomorphism.

1.5 Main graph examples.

1.6 Operations with graphs.

1.7 Directed graphs

1.8 Modeling graph topology.

1.9 PageRank algorithm.

2. Connectivity and distances

2.1 Walks in graphs.

2.2 Connected graphs.

2.3 DFS algorithm and connectivity test.

2.4 Distances in graphs: eccentricity, radius and diameter.

2.5 Algorithms for distance computing in graphs.

3. Eulerian graphs and hamiltonian graphs

3.1 Eulerian graphs: characterization.

3.2 Hierholzer algorithm and Fleury algorithm.

3.3 Necessary and sufficient condition on hamiltonian graphs.

4. Trees.

4.1 Definition and basic properties.

4.2 Generating trees.

4.3 Kruskal algorithm.

4.4 Rooted trees.

4.5 Huffman codes.

5. Aproaching other topics in graph theory

5.1 Planarity.

5.2 Coloration.

II. INTRODUCTION TO COMBINATORICS.

6. Elementary combinatoric topics.

6.0 Introduccion.

6.1 Basic principles in combinatorics.

6.2 Permutations

6.3 Combinations.

6.4 Binomial coefficients.

6.5 Special counting methods: Inclusion and Exclusion.

Methodology

Graph Theory and Elementary combinatorics are the main structure of this subject, which is presented during the first semester of the second year with four hours of teaching (two in big group and the rest in small group). Some hours into small groups are devoted to solve problems by the students on their own.

Development plan

Dates (Week number)	Activitity	Description		
1-8	Master classes and problems resolution.	Contents of Section 1 and 2		
5	Evaluation exercise.	Solve a problem.		
9	Evaluation part.	Exam of contents of section 1 and 2.		
10-16	Master classes and problems resolution.	Contents of the other sections.		
12	Evaluation exercise.	Solve a problem.		
17-18	Evaluation part.	Exam of contents of the rest of sections.		
20	Recuperation	Exam.		

Evaluation

The evaluation of discrete mathematics is as follows:

- First partial exam (week number 9), weighted on 4 points, where contents of sections 1 and 2 will be evaluated.
- Second partial exam (week number 17-18), weighted on 4 points, where the rest of the contents will be evaluated (also the basic results of the first two sections).
- Resolution of two problems either after and before the first partial exam, weighted on 1 point each.
- There is a recuperation exam, weighted en 10 punts, for those students whose qualification is lower than 5 with the sum of qualifications in the points given above.

Bibliography

Basic bibliography:

Related to combinatorics:

- Gimbert, J., Moreno R., Valls M., Notes sobre Combinatòria, Quadern EUP núm. 36, 2002. (In catalan)

Related to graph theory:

- Gimbert, J., Moreno, R., Ribó, J.M., Valls, M., Apropament a la Teoria de Grafs i als seus Algorismes, Edicions de la UdL, 1998. (In catalan).
- Bijedi, N., Gimbert J., Miret J.M., Valls M., Elements of Discrete Mathematical Structures for Computer Science, Univerzitetska knjiga Mostar and Edicions de la UdL, 2007. (In english)

Complementary bibliography:

- Anderson, I., Introducción a la Combinatoria. Vicens Vives, 1993.
- Brunat, J.M., Combinatòria i Teoria de Grafs. Edicions UPC, 1996.
- Biggs, N., Matemàtica Discreta. Vicens Vives, 1993.
- Comellas, F., Fàbrega, J., Sànchez, A., Serra, O., Matemàtica Discreta. Edicions UPC, 1994.
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- Grimaldi, R.P., Matemática Discreta y Combinatoria. Addison Wesley Iberoamericana, tercera edición, 1997.
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- Daniel A. Marcus, Combinatorics: A problem oriented approach. The mathematical asociations of america, 1998.

DEGREE CURRICULUM

PHYSICS

Academic year 2015-16

Subject's general information

Subject name	PHYSICS
Code	102008
Semester	1
Typology	Core subjects
ECTS credits	6
Theoretical credits	0
Practical credits	0
Office and hour of attention	We recommend to send mail to the corresponding professor for an appointment by mutual agreement. Please indicate in the message header: GEI Physics
Department	Medi Ambient i Ciències del Sòl
Modality	Presencial
Language	Catalan
Degree	Degree in Computer Engineering
Distribution of credits	Miquel Carrera 12 Francesc Perelló 3
E-mail addresses	mcarrera@macs.udl.cat fperello@macs.udl.cat

Teaching staff

Miquel Carrera Francesc Perelló

Learning objectives

The course aims to introducing the fundamental principles and basic laws of physics that will enable a better understanding of how works the technologies related to computer science.

For this reason, the program has the following specific objectives:

• Understanding and application of basic principles of electromagnetism related to the concepts of electric and magnetic field.

• Description of an electromagnetic wave and understanding of the parameters that identify it and determine their propagation properties.

• The introduction of the basic techniques for analyze electrical circuits

See also the section "Competences" to have an overview of the context in which these objectives are located.

Significant competences

Degree-specific competences

- GII-FB2. Understanding and commanding basic concepts of fields and waves and electromagnetism, theory of electrical circuits, electronic circuits, physical principle of the semiconductors and logical families, electronic and photonic devices, and his application for the resolution of problems in the engineering.

Degree-transversal competences

- EPS1. Capacity to solve problems and prepare and defence arguments inside the area of studies.
- EPS5. Capacity of abstraction and of critical, logical and mathematical thinking.
- EPS6. Capacity of analysis and synthesis.
- EPS8. Capacity of planning and organizing the personal work.

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Subject contents

Subject contents

0. Physical Quantities and Units

1. The Electric Field and the Electric Potential

2. Capacitors. Capacitance

3. Magnetic Fields. Magnetic forces and the sources of the magnetic fields

4. Electromagnetic induction. Faraday-Lens law

5. Electrical circuits (I). Fundamental rules

6. Electrical circuits (II): Alternating current

7. Waves. Electromagnetic Waves. Light propagation.

Methodology

The development of the course is based on three activities:

1) Classes GG

Exposition of the concepts, principles and fundamental relations of each subject

Approach of examples illustrating the application

2) Group classes GM

Discussion and resolution of problems and applications related concepts for each topic

3) Laboratory experiences

Development plan

Week	Subjects/Activities
1	Introduction Unit 1 **Laboratory 1**
2	U 1
3	U 1
4	U 1 U 2
5	U 2 U 3
7	U 3 **Laboratory 2**
8	U 4 **Evaluation PA4**
9	**Evaluation PA1**
10	U 5
11	U 5
12	U 5 U 6 **Laboratory 3**
13	U 6
14	U 7 **Evaluation: laboratory reports**
15	U 7
16	**Evaluation PA2**
17	
18	
19	**Evaluation: Retake exam**

Evaluation

I. Activities that constitute the continuous evaluation throughout the semester:

- COMPULSORY EVALUATION ACTIVITIES

These activities are required in order to pass the course through the process of continuous assessment. When the student have not done any of the three compulsory activities (PA1, PA2, PA3) will get a final maximum of 3.5 points, regardless of the application of percentages can give another result. Therefore, it must be submitted to the Retake exam.

1) PA1: 1st Partial Exam, Week 9

Content: all topics that have been developed until week 8 included (guidance: units1,2,3,4).

Percentage: 30 %

2) PA2: 2nd Partial Exam, Week 16-17

Content: units 5,6,7

Percentage: 45 %

3) PA3: Laboratory

All the following must be fulfilled:

a) Attendance at 3 laboratory sessions (scheduled time in weeks 1, 7, 12)

Warning: Being a lab, there is no possibility of recovering them out of traineeships established. Any incident affecting attendance at the scheduled session that has not been communicated promptly to the teacher will NOT be attended.

b) Presentation of a laboratory work report (during week 14)

Percentage: 15 %

- OPTIONAL Assessment activity (NOT COMPULSORY)

PA4: on-line self-evaluation test (week 8-9)

Content: units 1, 3, 4

Percentage: 10 %

II. RETAKE

PA5 Retake Exam, Week 19

Content: all topics

Grading criteria:

a) The final mark of the students who make the retake exam is given by:

80% Retake exam PA5

15% Laboratory PA3

5% Self-evaluation activity PA4

b) Having done the Retake exam but without having done the Laboratory practices PA3, the final mark will be a

maximum of 4, regardless of the result obtained applying the percentages referred in (a).

III. Validation of the Laboratory practices

- The students who passed the Laboratory practices last academic course 13-14, will validate Laboratory and maintain their Laboratory mark for this current course, as far as their final mark was not a NP

- The Laboratory practices passed in previous years to 13-14 are not validated.

Bibliography

Resources

Exercices

Laboratory work guides

Interactive web site Electromagnetisme MACS-UdL:

http://sedna.udl.cat:8080/opemcms7/opencms/fisica

Self-evaluation web site:

http://sedna.udl.cat:8080/InnovaCampus/

References:

(*)TIPLER,P.A, MOSCA, G. *Física para la Ciencia y la Tecnología (6ª ed.).* Vol.II de l'edició en 3 volums(ISBN-978-84-291-4430-7), Ed. Reverté, Barcelona, 2010.

(*) also in older editions:

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TIPLER, P.A. *Física.* Vol.II.Traducció al castellà de la 4a edició original. Ed. Reverté, 1999.

SERWAY,R.A. *Electricidad y Magnetismo*. 4ª edición. Mc.Graw-Hill, 1999.

SEARS, F.W., ZEMANSKY, M.W., YOUNG, H.D., FREEDMAN,R.A. *Física* Vol. 2. Novena edición. Addison-Wesley Longman, 1999.

GETTYS, W.E., KELLER, F.S., SKOVE, M.J. *FísicaClàsica y Moderna*. Mc. Graw-Hill, 1991.

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GONZÁLEZ, F.A. *La Física en Problemas*. Ed. Tébar,2000

RAMOS, A., RIVAS, J.M., JIMÉNEZ, M.A. *Ejercicios deElectricidad.* Ed.Tébar Flores. Madrid.

BUECHE, F.J., *Física General* (9ª ed.). McGraw-Hill, 2001.

GARCIA, J. *Problemas de Física*. Ed. Eunibar.

MARTÍNEZ, M., GONZÁLEZ, F.A. *Problemas de FísicaGeneral*. Ed. Tébar Flores, Madrid, 1978.

BURBANO DE ERCILLA, S.,BURBANO GARCÍA, E., GRACIA MUÑOZ, C. *Problemas de Física General* (26ªed.). Mira Editores, Zaragoza, 1994.

DEGREE CURRICULUM

DATA STRUCTURES

Coordination: Sergio Sayago

Academic year 2015-16

Subject's general information

Subject name	Data Structures
Code	102010
Semester	1
Typology	Compulsory
ECTS credits	6
Groups	GG, GM-GEIADE, GM1, GM2, GM3
Theoretical credits	3
Practical credits	3
Coordination	Sergio Sayago
Office and hour of attention	Appointments made by email
Department	Computer Science and Industrial Engieering
Teaching load distribution between lectures and independent student work	Work in class (40%) Work out of class (60%)
Modality	Presencial
Language	Catalan and Spanish
Degree	Degree in Computer Enginneering
Distribution of credits	Sergio Sayago (GG, GM3, GM-GEIADE) Xavier Domingo (GM1, GM2)
E-mail addresses	sergio.sayago@diei.udl.cat xdomingo@diei.udl.cat

Teaching staff

Sergio Sayago Xavier Domingo

Subject's extra information

Data Structures is a second year course (first semester) within the degree of Software Engineering at Universitat de Lleida. To follow this subject properly, some previous knowledge/skills on programming, Java, and object-oriented programming are recommended.

Data Structures is designed to follow up on Programming II by delving into Object Oriented Programming. Java will be the OOP language used throughout the course.

Data Structures aims to deepen and widen Algorithms and Complexity by discussing algorithms related to data structures in terms of the “Big-Oh” notation.

Data Structures is designed to keep the student’s workload as constant as possible throughout the course.

Learning objectives

To be conversant with the main types of data structures: sequential access, trees, and tables

To delve into object oriented programming; design and develop interfaces, abstract classes and generics in data structures by using the Java Collections Framework

To analyse operations and algorithms by using Big Oh notation, and develop more efficient algorithms

To delve into recursion; design and develop recursive methods to traverse tree and turn these methods into iterative ones

To design and develop classes which make use of several data structures and aspects related to object oriented programming in order to solve problems

Significant competences

EPS1. Capacity to solve problems and prepare and defence arguments inside the area of studies.

EPS5. Capacity of abstraction and of critical, logical and mathematical thinking.

GII-FB3. Capacity to understand and master the basic concepts of discreet mathematics, logical, algorithmic and computational complexity, and its application to solve engineering problems.

GII-CRI6. Knowledge and application of the basic algorithmic procedures of the computer technologies to design problem solving, analysing the suitability and complexity of the algorithms proposed.

GII-CRI7. Knowledge, design and efficient use of the types and data structure more suitable for solving a problem.

GII-CRI8. Capacity to analyse, design, build and keep safety and efficiency in applications, choosing the paradigm and the most suitable programming languages.

Subject contents

Ch1. Introduction to algorithms complexity for data structures

Ch2. Aspects related to object oriented programming related to the course and guided introduction to the Java Collections Framework

Ch3. Main data structures of sequential access: introduction, design, implementation and analysis

Ch4. Trees: binary trees, binary search trees, multiway trees

Ch5. Introduction to more advanced data structures

Methodology

Theory (2-h sessions): lecturers will present the contents of the course to the students

Laboratories (2-h sessions): laboratories and projects. IDE: Netbeans

Development plan

Week 1: Chapter 1 and Laboratory 1

Week 2: Chapter 2 and Laboratory 1 (continuation)

Week 3: Laboratory 2

Week 4: Chapter 2 and Laboratory 2 (continuation)

Week 5: Chapter 3 and Project 1

Week 6: Chapter 3 and Project 1 (continuation)

Week 7: Chapter 3 (continuation) and Project 2

Week 8: Chapter 3 and Project 2 (continuation)

Week 9: First exam

Week 10: Chapter 4 and Laboratory 3

Week 11: Chapter 4 and Laboratory 3 (continuation)

Week 12: Chapter 4 (continuation) and Project 3

Week 13: Project 3 (continuation)

Week 14: Chapter 4 (continuation) and Project 4

Week 15: Chapter 5, Project 4 (continuation) and questions

Week 16 / 17: Second exam

Evaluation

There will be **two written exams**. Each exam will account for 25% of the final grade. **Both exams are mandatory**. Fail (for each exam): less than 4. The exams will be designed as the course advances. A tentative proposal for the exams are:

First exam: Theory (Chapters 1-3); Laboratories (1-2)

Second exam: Theory (Chapter 4 and 5); Laboratory 3; Projects (1-4)

There will be **3 laboratories and 4 mini-projects**. **Laboratories and projects are mandatory.** This means that they must be submitted so that the student can pass the course. This condition (pass / fail) depends on the final mark of laboratories and mini-projects (at least, equal or greater than 5). Laboratories (and projects) account for 25% of the final grade.

Total laboratories = (lab1 + lab2 + lab3) / 3 >= 5

Total projects = (pro1 + pro2 + pro3 + pro4) / 4 >= 5

Re-takes: written exams, laboratories and projects. Re-takes will have the same percentage as the ordinary assessment activities. Under no circumstance will re-take activities carry out to get a higher mark of an already passed activity.

Final grade (fail: less than 5): exam1*0.25 + exam2*0.25 + total_lab*0.25 + total_projects*0.25

Lecturers will also assess the evolution of students throughout the course.

It is worth noting that students must carry out all mandatory activities, deliver them on time, and pass them, in order to pass this course.

Bibliography

William J. Collins. Data Structures and the Java Collections Framework. Third edition. John Wiley & Sons, 2010. USA.

Adam Drozdek. Data Structures and Algorithms in Java. Second edition . Thomson Learning, 2005. USA.

Maurice Naftalin, Philip Wadler. Java Generics and Collections. O'reilly, 2007. USA.

Josep Maria Ribó. Apropament a les estructures de dades del del programari lliure . 2014.

Mark Allen Weiss. Data Structures & Problem Solving Using Java. Fourth Edition . Addison Wesley, 2010. USA.

DEGREE CURRICULUM

ALGORITHMS AND COMPLEXITY

Coordination: Course taught in the 2nd semester of 2nd year of Degree in Computer Engineering. It corresponds to the Subject "Information" within the module "Basic Training".

Academic year 2015-16

Subject's general information

Subject name	ALGORITHMS AND COMPLEXITY
Code	102011
Semester	2n Semester
Typology	Compulsory
ECTS credits	6
Groups	3+1
Theoretical credits	3
Practical credits	3
Coordination	Course taught in the 2nd semester of 2nd year of Degree in Computer Engineering. It corresponds to the Subject "Information" within the module "Basic Training".
Office and hour of attention	For questions or related issues, it is recommended to email the teachers of the course.
Department	Informàtica i Enginyeria Industrial
Modality	Presencial
Language	Catalan
Degree	Degree in Computer Enginneering
Distribution of credits	Jordi Planes 6.8 Aitor Corchero 8.2
E-mail addresses	jplanes@diei.udl.cat

Teaching staff

Jordi Planes Cid

Subject's extra information

Suggestions

We advise you to solve the proposed problems and programming exercises. It allows to reach the learning objectives.

The following courses are highly recommended:

- Introduction to Programming 1
- Introduction to Programming 2
- Data Structures
- Discrete Mathematics

Learning objectives

Characterized formally problems. To analyze the efficiency of algorithms using asymptotic notation for the study of the cost temporary or runtime algorithms. To analyze the efficiency of algorithms using asymptotic notation for the study of spatial algorithms cost. Using the techniques of formal verification algorithms applied to recursive algorithms and iterative. Using the techniques of transformation of recursive algorithms. Using the techniques of optimization algorithms.

Identify the nature of the problem and identify the appropriate strategy algorithms. Design and implement appropriate strategies algorithms to solve different types of problems. Design and implement solutions using algorithms technique divides and conquers. Designing and implementing solutions using the technique voracious algorithms. Design and implement solutions using algorithms technique setback. Optimize algorithms based on technical solutions retreat through the design and implementation of heuristic pruning the search space. Design and implement solutions algorithms using dynamic programming technique. To analyze the spatial and temporal complexity of algorithms strategies adopted.

Design and implement data structures to represent up appropriate information of each problem. Design and implement efficiently the operations associated with data structures identified. Efficiently integrate data structures, algorithms and strategies necessary to solve complex problems. Optimize the efficiency of the solutions designed.

Design and implement strategies for efficient algorithms to solve different types of problems. Using functionalities of programming languages ??for implementing solutions. Use a software development environment based on a high level programming language. Develop efficient implementations.

Significant competences

Degree Competences

GII-FB3. Capacity to understand and master the basic concepts of discreet mathematics, logical, algorithmic and computational complexity, and its application to solve engineering problems.

GII-CRI6. Knowledge and application of the basic algorithmic procedures of the computer technologies to design problem solving, analysing the suitability and complexity of the algorithms proposed.

GII-CRI7. Knowledge, design and efficient use of the types and data structure more suitable for solving a problem.

GII-CRI8. Capacity to analyse, design, build and keep safety and efficiency in applications, choosing the paradigm and the most suitable programming languages.

Cross-disciplinary Competences

EPS1. Capacity to solve problems and prepare and defence arguments inside the area of studies.

EPS5. Capacity of abstraction and of critical, logical and mathematical thinking.

University Competences

CT5. Acquire knowledge in scientific thinking.

Subject contents

Organization of the course topics:

1. Preliminaries: algorithm, notation, predicate logic, proof techniques.

2. Formal specification of algorithms based on pre-post conditions.

3. Efficiency of algorithms. Asymptotic notation . Analysis of algorithms.

4. Formal verification of iterative and recursive algorithms.

5. Techniques for transformation of recursive algorithms.

6. Algorithmic schemes: divide and conquer.

7. Algorithmic schemes: greedy search.

8. Algorithmic schemes: backtracking.

9. Improving the backtracking scheme by using heuristics.

10. Algorithmic schemes: dynamic programming.

11. Introduction to computational complexity.

Methodology

The course contents are structured in four learning units. The first is to characterize the formal study of algorithms. In this sense, we will study the formal specification of algorithms based on preconditions and postconditions and analyze the efficiency of algorithms using asymptotic measures to study the run-time of algorithms.The second teaching unit aims to study formal verification techniques for iterative and recursive algorithms and processing techniques for the study of recursive algorithms. The third learning unit is to study algorithmic schemes, i.e., analyze, design and implement algorithms to solve not only a specific problem but a family of problems that share a common set of characteristics. We study three algorithmic schemes: divide and conquer, backtracking and greedy search. The systematic design and analysis of algorithms based on a specific scheme is focused on the study and development of solutions or strategies to solve a problem. A different approach consists in considering globally all algorithms or strategies that may solve a particular problem. This includes all possible algorithms or strategies that have not yet been defined. This approach is considered to be in the field of computational complexity which will be briefly introduced in the last teaching unit. The study of each technique and algorithmic scheme will be tackled, based on solving specific problems for each type. Furthermore, the algorithmic solutions developed throughout the course will be implemented in Ocaml and C++. From the standpoint of the implementation of the algorithms, empirical study of their run-time for different instances of the problems treated will be also considered. The empirical study of the run-time of the algorithm implementations will allow to finely compare the different algorithmic strategies developed during the course, as sometimes the asymptotic run-time behaviour may hinder important variations of the run time of different algorithms.

Development plan

The course is organized in large group classes and laboratory classes. Each week students large group race in 2 hours and 2 hours lab group.

A large group classes are the algorithmic schemes and theoretical basis of the subject. For each technique and formal algorithmic scheme proposes a collection of problems which students must solve. Solving the revised large group classes

and laboratory.

In the laboratory classes are tought the most important features of Ocaml and C++. In addition to discussing implementation problems and collections solution develops the three practical compulsory works.

The first mandatory practice begin during the 3rd week of the course and will be given to the date fixed for the 1st written test (1st part).

Mandatory practice will begin during the second week of the 10th year and will be delivered to the date set for the 2nd written test (2nd part).

Evaluation

The evaluation consists of two and three practical examinations organized as follows:

Written test 1: Formalization. Costs. Recursive and iterative design. Schemes transformation of recursive algorithms. It divides and conquers.
Percentage 25% (no minimum requested)

Mandatory Practice 1: Formalization. Costs.Recursive and iterative design. Schemes transformation of recursive algorithms. Divide and conquer scheme.

The practice will only delivery date, will not be handed out this term, and can not be resit.
Percentage 25% (no minimum requested)

Delivery: Before the date fixed for the written test first.

Validation practice 1 and 2: In order to define the final practice, will be a written validation date set for the written test first.

Written test 2: Greedy schemes, backtracking using heuristic optimization.
Percentage 25% (no minimum requested)

Mandatory Practice 2: Greedy schemes, backtracking using heuristic optimization.

The practice will only delivery date, will not be handed out this term, and can not be resit.
Percentage 25% (no minimum requested)

Delivery: Before the date fixed for the second written test.

Validation practice 2: In order to define the final practice, will be a written validation date fixed for the second written test.

At the end of the year if the final <5 students will be introduced to improve the grade in the written tests.

Bibliography

Basic References:

* G. Brassard y P. Bratley. Fundamentos de algoritmia. Prentice Hall. 1997.**Dada structures and algorithms:**

* Cormen, T.H.; Leiserson, C.E. ; Rivest, R.L.; Stein, C. Introduction to Algorithms, (3ª edición). MIT Press, 2002. * Skiena, S. The Algorithm Design Manual. Springer 2008.

Exercices:

* R. Guerequeta y A. Vallecillo. Tecnicas de diseño de algoritmos. Servicio de Publicaciones de la Universidad de Málaga. 2nd Ed. 2000. http://www.lcc.uma.es/~av/Libro/indice.html

* Gonzalo, J.; Rodríguez, M. Esquemas algorítmicos: enfoque metodológico y problemas resueltos, UNED, 1997.
* Martí, N.; Ortega, Y.; Verdejo, J. A. Estructuras de datos y métodos algorítmicos. Prentice Práctica, 2003.

Implementation:

* Stroustrup, B. The C++ Programming Language. Addison-Wesley. 3rd edition. 1997.

* Meyers, S. Effective C++. 3rd edition. 2005.

* Meyers, S. More Effective C++. 1995.

* R. Sedgewick. Algoritmos en C++. Addison-Wesley / Diaz de Santos.1995.

DEGREE CURRICULUM

OPERATING SYSTEMS

Academic year 2015-16

Subject's general information

Subject name	OPERATING SYSTEMS
Code	102012
Semester	1
Typology	Mandatory
ECTS credits	9
Theoretical credits	6
Practical credits	3
Office and hour of attention	Fernando Cores: Tuesday 11:00-13:00 Francesc Solsona: Monday 13:00-14:00
Department	Computer Science and Industrial Engineering
Modality	Presencial
Language	Castellà/Català
Degree	Degree in Computer Engineering
Distribution of credits	Manuel Fernando Cores Prado 2.7 Francesc Solsona Tehas 2.7 + 3.6 Valentí Pardo Casanovas 3.6 Jordi Vilaplana Mayoral 3.6
E-mail addresses	fcores@diei.udl.cat francesc@diei.udl.cat valenti.pardo@udl.cat jordi@diei.udl.cat

Teaching staff

Manuel Fernando Cores Prado Francesc Solsona Tehas Valentí Pardo Casanovas Jordi Vilaplana Mayoral

Learning objectives

- To determine the functional characteristics and design of the elements that make up an operating system (OS).
- Analyze the importance of each module that make up an operating system.
- To identify the different services provided by the operating system to users and applications.
- Efficient use of services provided by the OS for the design and development of computer applications.
- Critically analyze the characteristics and functioning of the policies that make up an operating system.
- Applying the techniques described to other problems.
- Critically compare the different mechanisms of memory management.

Significant competences

Cross-disciplinary competences:

- **EPS1.** Capacity to solve problems and prepare and defence arguments inside the area of studies.
- **EPS6.** Capacity of analysis and synthesis.
- **EPS9.** Capacity for unidisciplinary and multidisciplinary teamwork.

Specific competences:

- **GII-CRI2.** Capacity to plan, conceive, deploy and direct projects, services and computer systems in all the fields, leading his set up and his continuous improvement and evaluation his economic and social impact.
- **GII-CRI5**. Knowledge, manage and maintain systems, services and computer applications.
- **GII-CRI10.** Knowledge of the characteristics, functionalities and structures of the operating systems and design and implement applications based in their services.

Subject contents

Part I. Introduction to Operating Systems.

1. **Introduction**
    1. Concept of Operating System
    2. Objectives
    3. History of the operating systems
    4. Types of operating systems
2. **Estructure of the Operating System**
    1. Components of the operating system
    2. Services of the operating system
    3. Calls and programs of the system
    4. Case study: UNIX / LINUX.

Part II. Scheduling of Processes.

3. **Managing and communicating processes**
    1. Concept of process
        1. States of the processes
        2. Process Control Bloc (PCB)

2. Threads of execution
3. Communication between processes
4. Types of comunication
5. Case study: Managing processes in UNIX.
6. Case study: Comunicating by pipes

4. **Scheduling of the CPU**
    1. Basic concepts
    2. Tipes of schedulers
    3. Performance metrics
    4. Scheduling algorithms
    5. Mulilevel queues
5. **Deadlock**
    1. Characterization of the deadlock
    2. Coffman conditions
    3. Deadlock techniques
        1. Prevenció
        2. Evitació
        3. Detection and Recovery

Part III. Managing of Memory

6. **Managing of Memory**
    1. Basic principles
    2. Assigning contiguous Memory
        1. Nude Machine
        2. Resident Monitor
        3. Multiple Partitions
    3. Assigning non contiguous Memory
        1. Pagination
        2. Segmentation
    4. Combined systems
        1. Pagined segmentation
        2. Segmented pagination
7. **Virtual Memory**
    1. Introduction
    2. Demand paging
    3. Effective Access Time
    4. Frames allocation algorithms
    5. Pages replacement algorithms
    6. Thrashing

Part IV. Services of the Unix/Linux Operating System

8. **Scripting.**

    1. Introduction
    2. Syntax of Bash
    3. Programming with Bash

Methodology

The development of the course consists of:

1. Theory and proposal and problems resolution in large-sized class groups (LG), and

2. Problems resolution and Practices of Linux Bash in medium-sized class groups (MG) in the laboratory.

Theory and problems evaluation will be carried out by means ot two partial exams. The evaluation of the practices will be carried out by delivering the requested practices in groups formed as much by two students. The second partial exam will contain a question of practices.

In addition, students must complete 4 deliverable problems. It is considered very important the attendance and participation in class.

Development plan

Week	Attendant Activity (LG)	Attendant Activity (MG)	Activity and homework
1	Presentation T1: Introduction	Free	Check program and bibliography
2	T2: Estructure of the Operating Systems	Introducing Linux User	Study Linux User Tutorial
3	T3: Managing and communicating processes	Introducing Linux User	Study Linux User Tutorial
4	T3: Managing and communicating processes	Introducing Linux Programming Practice1: Presentation	Pratice1 Study Linux Programming Tutorial
5	T3: Managing and communicating processes T4: Scheduling of the CPU	Problems: Managing and communicating processes	Pratice1 Problems: Managing and communicating processes
6	T4: Scheduling of the CPU	Problemas: Managing and communicating processes Problems: Scheduling of the CPU	Pràctica1 Problems: Scheduling of the CPU
7	T5: Deadlock	Correction P1 Cont Eval. Problems: Scheduling of the CPU	Pratice1 Problems: Scheduling of the CPU
8	T5: Deadlock Correction P2 Cont. Eval. Review. Questions	Practice1: Delivery	Pratice1 Problems: Deadlock
9	**1st Partial Exam**		Study
10	T6: Managing of Memory	Programming with Shell Script (BASH)	Study Programming with Shell Script (BASH)
11	T6: Managing of Memory	Programming with Shell Script (BASH)	Study Programming with Shell Script (BASH)
12	T6: Managing of Memory T7: Virtual Memory	Pràctica2: Presentation Problems: Managing of Memory	Practice2 Problems: Managing of Memory

13	Correction P3 Cont. Eval. T7: Virtual Memory	Problems: Virtual Memory	Practice2 Problems: Managing of Memory
14	T7: Virtual Memory	Problemes: Virtual Memory	Practice2 Problemes: Virtual Memory
15	Correction P4 Cont. Eval. Review. Questions	Practice: Delivery	Practice2 Problems: Virtual Memory
16	**2nd Partial Exam**		Study
17			
18			
19	Retrieval		

Evaluation

Activitat d'Avaluació	Weight	Minimum Note	with Group	Mandatory
1st Exam	35%	NO	NO	YES
2nd Exam	35%	NO	NO	YES
Practices	20%	5	YES (≤2)	YES
Problems	10%	NO	YES (≤2)	YES
Participation in Class	1 point	NO	NO	NO

Bibliography

Basic Bibliografy:

[Sil99] SilberschatzA., Peterson J. Y Galvin P.: “Sistemas Operativos. ConceptosFundamentales”; Addison-Wesley, 1999.

Additional Bibliografy:

[Car01] CarreteroPérez, Jesús, y otros: “Sistemas Operativos. Una VisiónAplicada”. McGraw-Hill, 2001.

[Mar04] F.M. Marquez García: “Unix. Programación Avanzada”, Edt. Ra-ma 3ªedició, 2004.

[Qui02] E.Quigley: “UNIX Shells by Example”, Edt. Prentice-Hall, 3ra edició, 2002

[Tan98] Tanenbaum,Andrew S. “Sistemas Operatius, Diseño e Implementación”, 2ª edició, Ed. Prentice-Hall, 1998.

[Tac96] TackettJ. y Gunter D., “Utilizando Linux”, Prentice Hall, 1996

[Kay97] KayA. Robbins, Steven Robbins, "UNIX Programación Práctica. Guía para la Concurrencia, la Comunicación y los Multihilos", Edt.Prentice-Hall, 1997.

[Afz97] Afzal, A.: Introduccióna Unix. Un enfoque práctico. Ed. Prentice Hall, 1997.

[Tac96]Tackett J. y Gunter D.: Utilizando Linux 2ª. Prentice Hall, 1996

DEGREE CURRICULUM

COMPUTER ARCHITECTURE

Coordination: Concepció Roig Mateu

Academic year 2015-16

Subject's general information

Subject name	Computer Architecture
Code	102014
Semester	4
Typology	compulsory
ECTS credits	6
Groups	1 big group (GG) theoretical part, 3 medium groups (GM) problems/practices.
Theoretical credits	3
Practical credits	3
Coordination	Concepció Roig Mateu
Office and hour of attention	Monday and Thursday from 10 to 11 h. Room 3.13 EPS
Department	Informàtica i Enginyeria Industrial
Teaching load distribution between lectures and independent student work	Globally the subject has 60 hours of presential classes and 120 hours of individual working of students.
Modality	Presencial
Language	Catalan
Degree	Degree in Computer Enginneering
Distribution of credits	3 credits of big group (GG) for the theoretical part, 3 credits of medium group (GM) for problems/practices.
E-mail addresses	roig@diei.udl.cat

Teaching staff

CONCEPCIÓ ROIG MATEU

Subject's extra information

This subject is held during the second semester of the second course of the degree.

This is a compulsary subject.

To follow up the subject they are required to have the knowledge of functional units composing the computer system, that are studied in the previous subjects of Computer Organization I and II.

Learning objectives

- Studying the global operation and the levels of the memory hierarchie in the computer.
- Learning the organization of the information in the memory system in order to have efficiency in the acces.
- Learning the pipeline mechanism to execute instructions inside the processor and evaluate its performance.
- Understanding the steps involved in complex operations solved in the arithmetic unit.
- Analyzing different solutions in terms of efficiency and cost. Being able to find which design solutions provide the best tradeoff between cost and performance.

Significant competences

Degree-specific competences

- GII-FB5: Knowledge of the structure, organization, workings and inter-connexion of computer systems, the basis of their programming, and their applications in the resolution of engineering problems.

- GII-CRI9: Ability to know, understand and evaluate computer structures and architecture, as well as the basic components which constitute them.

Degree-transversal competences

- EPS5: Ability for abstraction and critical, logical and logical reasoning.

Subject contents

1. Memory hierarchie

1.1. Introduction

General concepts

Principle of locality

1.2. *Cache memory*

Cache memory configurations

Mapping and identification of blocs

Bloc replacing algorithms

Writting policies

Data consistency

Cache performance

1.3. Main memory

Organization for improving performace

Alternative technologies

1.4. Virtual memory

Elements of virtual memory

Page table

TLB (Transaction Look-aside Buffer).

2. Pipeline processing

2.1. Basic concepts

2.2. Hazard management

Estructural hazards

Data hazards

Control hazards

2.3. Influency of instruciton set

2.4. Superescalar execution

3. Arithmetic processing

3.1. Adder circuits.

Half-adder, full-adder, parallel adder.

Carry-look-ahead.

adder/substractor circuit.

3.2. Binary multiplication algorithms.

3.3. Binary division algorithms

3.4. Floating point arithmetic

Floating point format

Approximate representation: rank and precision

Add and substract operations

Multiplication and division operations

Methodology

Classes are divided in different groups, big group (GG), where they attend all the students of the subject and medium group (GM) where there only assist part of the students. The contents of the different kind of groups are divided in the following way:

GG: They are expositive classes where they are shown the main contents on the subject.

GM: they are classes to solve exercices related to the contents exposed in the GG classes, in a participative and interactive way. They also carry out lab practices of memory hierachy with the simulator SMPcaché and of pipeline execuiton with the simulator WinMIPS64.

Development plan

Week 1: Memory hierarchie. 2 h. theory + 2 h. problems.

Week 2: Memory hierarchie. 2 h. theory + 2 h. problems.

Week 3: Memory hierarchie. 2 h. theory + 2 h. problems.

Week 4: Memory hierarchie. 2 h. theory + 2 h. problems.

Week 5: Memory hierarchie. 2 h. theory + 2 h. practices of laboratory.

Week 6: Memory hierarchie. 2 h. theory + 2 h. practices of laboratory.

Week 7: Pipeline processing. 2 h. theory + 2 h. problems

Week 8: Pipeline processing 2 h. theory + 2 h. problems

Week 9. Partial evaluation activities.

Week 10: Pipeline processing. 2 h. theory + 2 h. practices of laboratory.

Week 11: Pipeline processing. 2 h. theory + 2 h. practices of laboratory.

Week 12: Arithmetic processing. 2 h. theory + 2 h. problems.

Week 13: Arithmetic processing. 2 h. theory + 2 h. problems.

Week 14: Arithmetic processing. 2 h. theory + 2 h. problems.

Week 15: Arithmetic processing. 2 h. theory + 2 h. problems.

Weeks 16 and 17. Partial evaluation activities.

Week 18. Seminars.

Week 19. Recuperation evaluation activities.

Evaluation

N_P1: mark first partial exam

N_P2: mark second partial exam

N_Pr: practices mark

The qualification of the subject is calculated by applying the following expression:

FINAL_MARK = 30% N_P1 + 50% N_p2 + 20% N_Pr

To pass the subject, it is necessary that FINAL_MARK is greater than or equal to 5.

In the case of not passing the subject there is the option of recuperate it through a final exam. In this case, the mark is calculated as following:

N_rec: retest mark

FINAL_MARK = 80% N_rec + 20% N_Pr

Bibliography

Stallings W., *Organización y arquitectura de computadores*. (7 edición) Prentice-Hall.

Hamacher C., Vranesic Z., Zaky S. *Organización de computadores* (5ªedición). McGraw-Hill.

Ortega J., Anguita M., Prieto A. *Arquitectura de computadores.* Thomson.

Hennessy J. L., Patterson D. A. *Computer Architecture. A Quantitative Approach*. Morgan Kaufmann.

DEGREE CURRICULUM

REDES

Academic year 2015-16

Subject's general information

Subject name	REDES
Code	102015
Semester	2n Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	9
Theoretical credits	6
Practical credits	3
Department	Informàtica i Enginyeria Industrial
Modality	Presencial
Degree	Grado en Ingeniería Informática
Distribution of credits	Carles Mateu Piñol 3.9 Cèsar Fernández Camon 1.5 Enric Guitart Baraut 10.8
E-mail addresses	carlesm@diei.udl.cat cesar@diei.udl.cat enric@diei.udl.cat

Teaching staff

Carles Mateu Piñol Cèsar Fernández Camon Enric Guitart Baraut

Subject's extra information

Office hours need to be appointed beforehand by e-mail to be sure we can attend you and that we are not attending other students.

To properly follow this course, previous skills on basic programming and operating systems are recommended.

Learning objectives

- Knowledge of current standard mechanisms and institutions.
- Learning data link protocols basics, as well as their weaknesses and capacities.
- Designing a physical and data-link level solution for a given scenario.
- Learning current network level protocol basics.
- Understanding network level protocol weaknesses and limitations and their solutions.
- Designing and addressing and routing solution for a given and basic scenario.
- Knowledge and ability to optimize transport protocols.
- Studying current data encoding and compression mechanisms.
- Knowledge and understanding encapsulation and abstraction models between network levels.
- Knowledge and understanding physical level data transmission mechanisms.
- Designing transport level protocols.
- Learning network security basic concepts.
- Designing basic perimeter security solutions.
- Understanding performance factors and congestion control procedures.
- Knowledge and understanding of application level protocols, particularly those with multimedia containers.

Significant competences

Degree-specific competences

- Knowledge and application of the characteristics, functionalities and structure of Distributed Systems, Computer and Internet Networks, and the design and deployment of applications based on them.

  Goals

  - Knowledge of current standard mechanisms and institutions.
  - Learning data link protocols basics, as well as their weaknesses and capacities.
  - Designing a physical and data-link level solution for a given scenario.
  - Learning current network level protocol basics.
  - Understanding network level protocol weaknesses and limitations and their solutions.
  - Designing and addressing and routing solution for a given and basic scenario.
  - Knowledge and ability to optimize transport protocols.
  - Studying current data encoding and compression mechanisms.
  - Knowledge and understanding encapsulation and abstraction models between network levels.
  - Knowledge and understanding physical level data transmission mechanisms.
  - Designing transport level protocols.
  - Learning network security basic concepts.
  - Designing basic perimeter security solutions.
  - Understanding performance factors and congestion control procedures.
  - Knowledge and understanding of application level protocols, particularly those with multimedia containers.

Degree-transversal competences

- Be motivated by quality and continual improvement.

Subject contents

Theme 1 Standards and organizations.

Theme 2 OSI and TCP/IP models.

Theme 3 Physical level: Introduction to data transmission

Theme 4 Data-link level:

4.1 Direct access networks: Ethernet (802.3), Wireless (802.11).

4.2 Transport networks: ATM, xDSI, xDSL, MPLS/VPLS.

4.3 Switching.

Theme 5 Network level.

5.1 IP protocols: IPv4 i IPv6.

5.2 IP addressing: IPv4 i IPv6.

5.3 Basic routing: static and vector-distance.

5.4 Advanced routing: link-state.

Theme 6 Transport level.

6.1 End-to-end protocols: TCP and UDP.

6.2 Another end-to-end protocols.

Theme 7 Congestion control and resource management.

Theme 8 Application level.

8.1 Application protocols.

8.2 Multimedia applications.

Methodology

The course is structured following the layered model of OSI/ISO network abstracion, we study the different technologies and network protocols starting with the physical level, and progressively increasing the ISO/OSI level, and hence abstraction with respect to the physical transportation of data. Despite using the ISO theoretical model, the protocol suite studied is the constituent of the Internet, TCP/IP. For each level there is a collection of problems that allow students to validate they achieved required knowledge. Also in a series of laboratory sessions, students will consolidate this knowledge as well as gaining a more applied view of networks, as the laboratories will be done using real enterprise-level network equipment to implement realistic networks in realistic scenarios.

Development plan

Week 1. Theme 1. Standards and organizations.

Week 2. Theme 2. OSI and TCP/IP models

Week 3. Theme 3. Physical level: Introduction to data transmission

Week 4. Theme 3. Physical level: Introduction to data transmission

Week 5. Theme 4. Data-link level

Week 6. Theme 4. Data-link level

Week 7. Theme 4. Data-link level

Week 8. Holidays

Week 9. Theme 5. Network level

Week 10. Partial Exams 1

Week 11. Theme 5. Network level

Week 12. Theme 5. Network level. / Theme 6. Transport level

Week 13. Theme 6. Transport level

Week 14. Theme 7. Congestion control and resource management

Week 15. Theme 7. Congestion control and resource management

Week 16. Theme 8. Application level

Week 17. Partial Exams 2

Evaluation

Continuous assessment:

- Midterm 1 test: 18 % (practices included).
- Midterm 2 test: 18 % (practices included)).
- Practice 1 (Sockets/Programming): 20 %
- Practice 2 (Physical and data-link level): 24 %
- Practice 3 (Network level and TCP/IP): 20 %

  To pass the course student must have a minimum average of 3 over 10 in each of the two groups: amongst the 3 practices and amongst the 2 tests.

  The course is passed with a qualification >=5.

  There's **NO** recovery test.

Single test assessment:

- Recovery test: 100% of the mark.
- Recovery test: (recoverable up to 80% of the grade).

  This includes all the topics of the course (theory, practice and laboratory) in a single test.
  To follow this evaluation students must notify it beforehand.
  In case of delivery of any item of continuous assessment (practice and/or test) we will consider that sudents follow continuous assesment.

  The course is passed with a qualification >=5.

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DEGREE CURRICULUM

DATABASES

Coordination: Marta Oliva

Academic year 2015-16

Subject's general information

Subject name	DATABASES
Code	102016
Semester	1r Q Avaluació Continuada
Typology	Mandatory
ECTS credits	6
Theoretical credits	3
Practical credits	3
Coordination	Marta Oliva
Office and hour of attention	arranged by e-mail
Department	Informàtica i Enginyeria Industrial
Modality	Presencial
Language	catalan
Degree	Degree in Computer Enginneering
Distribution of credits	Marta Oliva Solé 9 Ferran Perdrix 3
E-mail addresses	oliva@diei.udl.cat ferranp@diei.udl.cat

Teaching staff

Marta Oliva Solé Ferran Perdrix

Subject's extra information

Suggestions

It is based on the knowledge acquired in the courses: Estructures de Dades and Programació 2. Specifically, it is necessary to have assimilated the concepts related to structures for the persistent storage (files).

The course as part of the academic plan

Course taught in the 1st semester of 2nd year of the program. It is part of the Matter "Anàlisi i Disseny d'Aplicacions" in the module "Formació Comú a la branca d'Informàtica". It introduces students to the Database technology as usual mechanism for the management, handling and storage of information, focusing on the relational model. The knowledge acquired in this course will be applicable in most careers, especially those who are dedicated to developing applications.

Learning objectives

- Use a relational database manager.
- Understand database technology as the usual mechanism to manage, manipulate and store information.
- Manage a database in a relational manager.
- Understand the functional structure of a Relational Database Management System.
- Design a database according to user needs.
- Build statements to manipulate databases based in the SQL standard.
- Build sentences for accessing databases based in the SQL standard.
- Optimize a database according to user needs.
- Understanding the user needs of information storage.

Significant competences

Cross-disciplinary competences

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

Specific competences

GII-CRI2. Capacity to plan, conceive, deploy and direct projects, services and computer systems in all the fields, leading his set up and his continuous improvement and evaluation his economic and social impact.

GII-CRI12. Knowledge and application of the characteristics, functionalities and structure of the databases, that allow their suitable use, and the design and the analysis and implementation of applications based in them.

GII-CRI13.Knowledge and application of the necessary tools for the storage, processing and access to the Systems of information, including those based in web.

GII-CRI16. Knowledge and application of the principles, methodologies and life cycle of the software engineering.

GII-CRI17. Capacity to design and evaluate person-computer interfaces that guarantee the accessibility and usability of systems, services and computer applications.

Subject contents

1. Introduction

2. The relational model

3. SQL (DDL, DML)

4. Normalization

5. Conceptual and logical design

6. Components of a DBMS

7. Transactions and concurrency

8. Physical design

Methodology

Classes are taught through large group sessions and middle group sessions.

In large group sessions the contents of the course are introduced, using the educational materials prepared by teachers.

In middle group sessions exercises are solved. They are previously proposed by the teachers and the students have to prepare them. We analyze the pros and cons of the solutions provided by the students.

Development plan

Calendar for GG sessions

Week		Wednesday GG	
1	Session 1	16 sep	Introduction, relational model
2	Session 2	23 sep	relational model, algebra
3	Session 3	30 sep	SQL-DDL (DDL and INSERT,DELETE, UPDATE)
4	Session 4	07 oct	SQL-DML (SELECT)
5	Session 5	14 oct	SQL-DDL, SQL-DML (TRANSACTION, LOCK, GRANT REVOKE and Ll. proc.)
6	Session 6	21 oct	Normalisation
7	Session 7	28 oct	Conceptual and logical design - UML class diagram - translation
8	Session 8	04 nov	Conceptual and logical design - UML class diagram - translation
9	EVALUATION	13 nov	First Partial
10	Session 9	18 nov	Conceptual and logical design - UML class diagram - UML case example
11	Session 10	25 nov	DBMS components- Integrity
12	Session 11	2 dec	Transactions and concurrency
13	Session 12	9 dec	Transactions and concurrency - SQL-DML (TRANSACTION, LOCK) - Physical Design
14	Session 13	16 dec	SQL Exam
15		6 gen - Festive	
16	EVALUATION	14 jan	Second Partial
17	EVALUATION		
18	Tutories		
19	RECOVERY	02-feb	Partial recoveries

Calendar for GM sessions

Week		Friday GM1	Monday GM2	Friday GM3	
1					
2	Session 1	25 sep	21 sep	25 sep	Surroundings of work SQL
3	Session 2	02 oct	28 sep - Festive	02 oct	SQL/Algebra exercises
4	Session 3	9 oct	05 oct	9 oct	SQL/Algebra exercises
5	Session 4	16 oct	12 oct - Festive	16 oct	SQL/Algebra exercises

6	Session 5	23 oct	19 oct	23 oct	SQL/Algebra exercises
7	Session 6	30 oct	26 oct	30 oct	Normalisation Exercises
8	Session 7	06 nov	02 nov	06 nov	UML-Translation Exercises
9	EVALUATION				
10	Session 8	20 nov	16 nov	20 nov	UML
11	Session 9	27 nov	23 nov	27 nov	UML
12	Session 10	4 dec	30 nov	4 dec	UML - advanced SQL/ Functions and Triggers
13	Session 11	11 dec	7 des	11 dec	advanced SQL/ Functions and Triggers
14	Session 12	18 dec	14 dec	18 dec	advanced SQL / Functions and Triggers - Problems concurrència
15	Session 13	8 gen	21 dec	8 gen	Concurrency Exercises
16	EVALUATION				
17	EVALUATION				
18					
19	RECOVERY				

Evaluation

Type	Denomination	Weight	Week	Recovery	People	Character
Written exam	First partial	30%	9	Week 19	ind	mand
Written exam	SQL Exam	15%	14	Week 19	ind	mand
Written exam	Second Partial	30%	16	Week 19	ind	mand
Deliverable	Problems and exercises		---			
	SQL Activity	10%	6	It is not recoverable	two people	opt
	UML Activity	15%	12	It is not recoverable	two people	opt
		100%				

To calculate the final grade for the course, you need the qualifications of Part 1, Part 2 and SQL exam will be equal or greater than 4.

If the rating of Part 1, Part 2 and SQL Exam is less than 4, it is necessary to recover the corresponding exam.

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Garcia-Molina H., Ullman J. D., Widom J. *Database Systems. The Complete Book*. 2nd edition. Pearson Education Inc. 2009.

Date C.J. Date C.J. *An Introduction to Database Systems* (Eighth Edition). Pearson. 2003.

Database Language SQL (1992). Document ISO/IEC 9075:1992. International Organization for Standardization (ISO).

Database Language SQL (1992). Document ANSI/X3 135-1992. American National Standards Institute (ANSI).

DEGREE CURRICULUM

HUMAN-COMPUTER INTERACTION

Coordination: Toni Granollers Saltiveri

Academic year 2015-16

Subject's general information

Subject name	HUMAN-COMPUTER INTERACTION
Code	102017
Semester	2
Typology	Mandatory
ECTS credits	6
Theoretical credits	0
Practical credits	0
Coordination	Toni Granollers Saltiveri
Office and hour of attention	In order to provide greater flexibility to students, teachers do not make a schedule. However, we are fully open to handle any student whenever necessary. To do this, arrange day and time with the teacher/s (in person, by e-mail, ...).
Department	Computer Science and Industrial Engineering
Teaching load distribution between lectures and independent student work	40% presential 60% autonomous work
Modality	Presencial
Language	Catalan
Degree	Degree in Computer Enginneering
Distribution of credits	Toni Granollers Saltiveri (3 ECTS, GG) Sergio Sayago (6 ECTS, GM2 and GM3) Marta González (3 ECTS, GM1)
E-mail addresses	antoni.granollers@udl.cat sergio.sayago@diei.udl.cat mgonzalez@diei.udl.cat

Teaching staff

Toni Granollers Saltiveri Sergio Sayago Marta González

Subject's extra information

Human-Computer Interaction (HCI), a discipline in which the subject is framed, is a newly developed area, like many others related to the field of computers, with a markedly interdisciplinary nature and in recent years has witnessed a boom spectacular in its various aspects.
This rise occurs due to the growing capacity of computer equipment and the existence of tools and increasingly sophisticated applications. So today does not surprise us to reach our cursor to the latest information from anywhere regarding any subject, participate in a conversation in which the partners are separated by oceans knowing that the presence of our users is not limited and even the voice, even in dreams, get your computer to give us advice on the best way to write a working paper, whether it is an ad, a review or a book's prologue.
In academia this trend is especially reflected in proposals for the structure of the curriculum of Informatics as the major US computer-related companies, the ACM and the IEEE. It is also worth noting the proliferation of universities worldwide that offer courses related to this matter. The report ACM / IEEE-CS "Joint Curriculum Task Force Computing Curricula 1991" identifies nine subject areas to cover the matter of the discipline of computer science, with the Human-Computer Interaction one.
In 1988, the Special Interest Group in Human-Computer Interaction, ACM-SIGCHI, launched a committee with the aim of making a curriculum. Its task was to draft a series of recommendations on education in IPO and in 1992 drafted the document "Curricula for Human-Computer Interaction" with a series of recommendations for conducting courses IPO.
Since February 2001 he has a new version of the report of ACM / IEEE curriculum guides for teachers to develop computer programs.
The final report appeared in the summer of 2001. In this document, "Ironman Report", the IPO has already found as a special area between the fourteen defined.
Therefore, the assessment that the IPO worth as an independent discipline for major computer companies make logical inclusion in the curriculum, apart from the need for training in this discipline for professionals in the industry.
To cover these aspects and objectives, the IPO should cover many different areas, including various aspects of both humans and the computer: Computer (design and engineering interfaces), Psychology (theory and application of the cognitive processes and empirical analysis of user behavior), sociology and anthropology (interaction between technology, work and organizations) and Industrial Design (interactive products), among others.
The topics were chosen ACM curriculum derived from consideration of the interrelated aspects of Human-Computer Interaction: The nature of the interaction, use and context of computers, characteristics of human beings, computers and interface architecture and development process. Also keep in mind the presentation of projects and evaluating them.
The topics were chosen ACM curriculum derived from consideration of the interrelated aspects of Human-Computer Interaction: The nature of the interaction, use and context of computers, characteristics of human beings, computers and interface architecture and development process. Also keep in mind the presentation of projects and evaluating them.

Learning objectives

Do understand the future in computer engineering graduate **the most important part of technology are the people who use it** and, therefore the enormous importance of the systems interfaces to be programmed and/or management to ensure the success of the same.

Descriptors of the subject are:

- Knowing the basics of Human-Computer Interaction.
- Understanding the importance of creating usable interfaces.
- Analyze the current industrial situation.
- Interactive learning methodologies to develop user-centric applications.
- Establish the connection with the Software Engineering.

Significant competences

Degree-specific competences

- Ability to design and evaluate interfaces between man and computer which guarantee accessibility and usability of systems, services and computer applications.

Degree-transversal competences

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

Subject contents

In terms of content, the subject presents first, the foundations of the discipline of Human-Computer Interaction, and then focuses on two main themes:

1.-Initiation of Usability Engineering and User Centered Design (UCD)

- People interacting with technology, introduction.
- Concept and Importance of the User Interface
- Usability and Accessibility
- User Centered Design (UCD)
- Usability Engineering, MPIu+a process model, as UCD model.
- Stages of the methodology
    - Main activities and techniques
    - Tools, utilities and examples to support
    - Prototyping and Evaluation
    - User Tests

2. - Prototyping techniques

- Introduction to Interactive Systems Prototyping
- Types of prototypes
    - Low Fidelity
    - Midlevel
    - High Fidelity

Methodology

The course is developed as follows:

- A **large group** classes (GG) presents the **theoretical contents** of the subject.
    - These contents are complemented with **examples**, some **workshop**.
    - It encourages **debate discussion** of topics related to the subject among students.
    - Related to this part, the student must complete a series of **activities related to any lecture or reading teacher or some external professional**.

- In **medium group** classes (GM1 / GM2 / GM3) the students develop an interactive design project
    - At the beginning of the year, a **project** is presented a to the students (grouped by 3 people at most) that will be developed during the semester.
    - The project is progressing through the different phases following the methodology and techniques explained in the subject.

Development plan

	MAIN GROUP			MEDIUM GROUP		
week 1	11-feb	Presentation Start with: 1.- Foundamentals. Usability, Accessibility, UX		GM1	08-feb	Explanation of the PROJECT to develop Form the groups, ...

				GM2	09-feb	
				GM3	12-feb	
week 2	18-feb	2.- Requirements Eng.		GM1	15-feb	Ethnographic analisys
				GM2	16-feb	Ethnographic analisys
				GM3	19-feb	Ethnographic analisys
week 3	25-feb	3.- UCD-MPIu+a		GM1	22-feb	Ethnographic analisys (delivery)
				GM2	23-feb	Ethnographic analisys (delivery)
				GM3	26-feb	Ethnographic analisys (delivery)
week 4	03-mar	4.- Prototyping		GM1	29-feb	Paper prototyping
				GM2	01-mar	Paper prototyping
				GM3	04-mar	EPS party
week 5	10-mar	4.- Prototyping - UI Dessing		GM1	07-mar	Paper prototyping
				GM2	08-mar	Paper prototyping (delivery)
				GM3	11-mar	Paper prototyping (delivery)
week 6	17-mar	5.- The Human Factor		GM1	14-mar	Paper prototyping (delivery)
				GM2	15-mar	Wireframe Visio / InVision
				GM3	18-mar	Wireframe Visio / InVision
Setmana Santa						
week 7	31-mar	5.- The Human Factor Act IND1 - READINGS		GM1	28-mar	
				GM2	29-mar	Wireframe Visio / InVision
				GM3	01-abr	Wireframe Visio / InVision
week 8	07-abr	Professional talk: Siân Lindley		GM1	04-abr	Wireframe Visio / InVision (delivery)
				GM2	05-abr	Wireframe Visio / InVision (delivery)

				GM3	08-abr	Wireframe Visio / InVision (delivery)
week 9	Setmana d'Activitats d'Avaluació Programades (parcial)					
week 10	21-abr	Local festivity		GM1	18-abr	Prototype SW
				GM2	19-abr	Prototype SW
				GM3	22-abr	Prototype SW
week 11	28-abr	6.- Evaluation methods (1/2)		GM1	25-abr	Prototype SW
				GM2	26-abr	Prototype SW
				GM3	29-abr	Prototype SW
week 12	05-may	6.- Evaluation methods (2/2)		GM1	02-may	Visit UsabiliLAB (preparació de materials avaluació)
				GM2	03-may	Visit UsabiliLAB (preparació de materials avaluació)
				GM3	06-may	Visit UsabiliLAB (preparació de materials avaluació)
week 13	12-may	Analisys of a collection of examples		GM1	09-may	Act IND2 - Heuristic Evaluation Deliver at the end of the class
				GM2	10-may	
				GM3	13-may	
week 14	19-may	7.- Accessibility		GM1	16-may	
				GM2	17-may	Prototype SW
				GM3	20-may	Prototype SW
week 15	26-may	7.- Accessibility		GM1	23-may	Delivery of Prototype SW + User's Evaluation + presentation
				GM2	24-may	Delivery of Prototype SW + User's Evaluation + presentation
				GM3	27-may	Delivery of Prototype SW + User's Evaluation + presentation

Evaluation

- (**15% of the final mark**) INDIVIDUAL activities
  - Readings (100 Things Every Designer Needs to Know About People) (30%)
  - Heuristic Evaluation (10%)
- (**45% of the final mark**) GROUP activities.
  - Ethnographic analysis (15%)
  - Prototype paper (15%)

    - Wireframe (15%)
    - Prototype software (25%)
    - Evaluation with users (15%)
    - Presentation (15%)
- (**20% of the final mark**) Review Part 1
- (**20% of the final mark**) Review Part 2

IMPORTANT:

- Each activity and exam which mark less than 4 will have to be recovered
    - 3.9 is 4
    - Absent = 0
    - Therefore, all activities are compulsory
- If the average of the two written exams is <5 will be necessary to review the final recovery
- The final exam recovery
    - ALL net
    - You need an average 5 to make and approve
    - has 40%

Bibliography

All the contents will be delivered in SAKAI vitual campus.

Most of the related materil is available at: http://www.grihotools.udl.cat/mpiua

> This course, as **novelty**, the students have acces to the online videos about the main lectures: **http://www.grihotools.udl.cat/mpiua/curso-ipo**

In general, no software is needed. Nevertheless, when it will be nedded, the teachers will provide all.

Recommended Bibliografy

- Dix, A. ;Finlay, J. ; Abowd, G. ; Beale R. (2004). ***Human-Computer Interaction***. Pearson Education Ltd. (3rdedition)
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- Sharp, H., Rogers,Y.; Preece, J. (2007). ***InteractionDesign: Beyond Human-Computer Interaction***. John Wiley and Sons.
- Arnowitz, J.;Arent, M.; Berger, N. (2007). ***Effective Prototyping for Software Makers***.Morgan-Kaufmann.
- Lorés, J. et al.(2001). ***La Interacción Persona Ordenador***. Llibre digital redactat perun conjunt de professors universitaris espanyols pertanyents a la AsociaciónPersona Ordenador (AIPO) i disponible de forma totalment gratuïta a: http://www.aipo.es/libro/libroe.php

Webs i blogs:

- http://www.usabilityfirst.com
- http://www.usabilitynet.org
- http://www.usability.gov
- http://www.ainda.info
- http://www.upassoc.org
- http://www.interaction-design.org
- http://uxnet.org
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- http://olgacarreras.blogspot.com
- http://www.nosolousabilidad.com
- http://www.thinkepi.net
- http://www.sortega.com/blog

DEGREE CURRICULUM

SOFTWARE ENGINEERING

Coordination: Juan Manuel Gimeno

Academic year 2015-16

Subject's general information

Subject name	SOFTWARE ENGINEERING
Code	102018
Semester	1r Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	6
Theoretical credits	3
Practical credits	3
Coordination	Juan Manuel Gimeno
Office and hour of attention	Juan Manuel Gimeno (3.20 EPS wednesday at 1pm; others by appointment) Monserrat Sendín (3.20 EPS by appointment)
Department	Informàtica i Enginyeria Industrial
Teaching load distribution between lectures and independent student work	40% lectures 60% independent work
Modality	Presencial
Language	Catalan 60% Spanish 30% English 10%
Degree	Degree in Computer Engineering
Distribution of credits	Juan Manuel Gimeno Illa 4.5 Montserrat Sendin Veloso 4.5
E-mail addresses	jmgimeno@diei.udl.cat msendin@diei.udl.cat

Teaching staff

Juan Manuel Gimeno Illa Montserrat Sendin Veloso

Subject's extra information

Compulsory subject of 3rd year (1st quarter) that belongs to the common studies in the computer science branch.

Matter: Analysis and Design of Applications.

RECOMMENDATIONS: We assume the student knows the concepts about object-oriented programming and data structures teached in Programming II and Data Structures.

Learning objectives

- Apply the Use Case technique
- Developing the analysis classes diagram following the Object Oriented Modeling principles
- Developing the contracts of the operations
- Be familiar with a UML-based modeling tool
- Knowing the software lifecycle process models usend over the years
- Understanding the development philosophy used in the Unified Process
- Be able to program basic unit tests
- Understanding and applying the object oriented design fundamental principles

- Understanding the concept of code as a something that evolves over time
- Recognizing the concept of responsibility as a fundamental one when planning an object oriented design
- Knowing the conceptual basis and the different aspects of the discipline

- Specifying in a textual way the functional needs of a certain software system planned by means of a statement and/or other inputs from the user
- Specifying in a textual way the non functional requirements of a certain software system planned by means of a statement and/or other inputs from the user
- Expressing graphically the flow of events, as a set of inputs and outputs, that describes the system behavior

.

Significant competences

- **Cross-disciplinary competences**
    - Capacity to understand the needs of the user expressed in a no technical language
- **Specific competences**
    - Capacity to plan, conceive, deploy and direct projects, services and computer systems in all the fields, leading his set up and his continuous improvement and evaluation his economic and social impact
    - Knowledge and application of the characteristics, functionalities and structure of the databases, that allow their suitable use, and the design and the analysis and implementation of applications based in them
    - Knowledge and application of the necessary tools for the storage, processing and access to the Systems of information, including those based in web
    - Knowledge and application of the principles, methodologies and life cycle of the software engineering
    - Capacity to design and evaluate person-computer interfaces that guarantee the accessibility and usability of systems, services and computer applications.

Subject contents

Theme I - ***Introductory aspects***

- Initial qüestions about the Software Engineering

- A little of history

- Software development process

- Software process models

- Conclusions

Theme II - ***Specifications and Requirements***

- Requirements Analisys

  - Initial concepts
  - Tipus of requirements
  - Examples

- The Use Cases technique

  - Concepts and components
  - Identification and specification of use cases
  - Examples

- A step more in the specification: the System Sequence Diagram

- Conclusions

Theme III - ***Domain Analisys***

- Analisys Classes Diagram

  - Conception
  - Foundations of the Object Oriented Modeling
  - Domain Model construction
  - Examples

- A step more in the analysis: the contracts of the operations

- Conclusions

Theme IV - ***Introduction to design and unit testing***

- Code as something which evolves

  - The concept of rotten code
  - Symptoms of rotten code

- The JUnit framework

  - Tests as executable specifications
  - Tests as facilitators of change
  - Testable code and flexible code

Tema V - ***The SOLID principles***

- Single responsibiliti principle
- Open-closed principle
- Liskov substitution principle
- Interface segregation principle
- Dependency inversion principle

Tema VI - ***Responsibility based design***

- The concept of responsibility
- The GRASP patterns of responsibility assignement

Methodology

PRESENTIAL PART

Great Groups

• **Masterly Classes (3 credits)**

- Supported by snapshots and/or specific notes
- Always working over examples

Little Groups

• **Laboratory Classes (3 credits)**

- UML Modeling tool usage: Visual Paradigm
- Progressive work regarding a certain **practical statement**, which will simulate the software project development

NO PRESENTIAL PART

- Practical work will be completed during **no presential** hours
- **Highly recommended** to the student: the problem solving from the **problems collection**, in order to get feedback from the teacher

Development plan

First of all, must be mentioned that the 1st part of the term is destined to analysis (requirements analysis and domain analysis), and after the first partial exam, in the 2nd part an introduction to the design and unit testing work is presented.

During the semester theory and problem classes (large groups) with laboratory classes (medium groups) will being interlaced timely, so that in the latter students will be able to put in practice each of the techniques and methods introduced always considering a certain statement of practice. With this statement is intended to simulate the work of specifying a particular software project.
Deliveries for activities are also set taking into account the pace followed in classes, intending that to the date of each partial exam, the student has already had to deal with all the methodology he/she is going to be examined.

Aproximated delivery dates for practical activities:

Analysis

- Requirement Analysis:
  - **11 October**
    - Use Cases Diagram ==> ***PRE-Delivery***
  - **20 October**
    - Vision Document

        - Suplementary Specification
        - Use Cases Model
- Domain Analysis: **6 Novembe**

Disseny

- Unit Testing: **ending december**

Evaluation

Progressive assesment

• **50% Conceptual**

- **Components:**
    - **Partial Exam 1**: 25%
    - **Partial Exam 2**: 25%
- **Common considerations** to both exams:
    - Minimal score required: 3
    - If not achieved minimal score
        - Recovery exam for the corresponding part/s
    - Exam type: concepts fixation and problem solving
    - Compulsory and Presential nature

• **50% Practical**

- **Components:**
    - Analysis (1rst part of the semester):
        - Requirements analysis: 15%
            - Pre-delivery: Use Case Diagram
        - Domain Model and Contracts: 15%

      This part must be developed in *groups of two people*

    - Design (2nd part of the semester):
        - Design and Unit Testing: 20%

      This part must be developed *individually*

- **Common considerations** to the differents activities:
    - Programmed and non delayable dates
    - Compulsory and Non Presential nature (although will be dedicated time in presential classes to solving doubts, as well as working some specific parts -meddium groups-)

• **Requirements:**

- **3** in each conceptual part, to be weighted with the practical mark
- **Success** = **Final Mark >= 5**

Bibliography

BASIC BIBLIOGRAPHY

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- I. Sommerville: “Ingeniería de Software”.
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- Requirements:

- G. Kotonya, I. Sommerville: “Requirements Engineering: Processes and Techniques”.
  Wiley, 1998
- A. Sutcliffe: “User-Centred Requirements Engineering. Theory and Practice”.

  Springer-Verlag, 2002

- Unit Testing:

- P.Tahchiev et al.: Junit in Action (2nd edition). Manning, 2011.

- Object Oriented Methodology:

- C. Larman: “Applying UML and Patterns: An Introduction to Object- Oriented Analysis and Design and Iterative Development”
  Prentice-Hall, 2005 (3ª ed.)
  Spanish version: “UML y Patrones”_ Prentice-Hall, 2002 (2ª ed.)

- Robert C. Martin: "Agile Software Development: Principles, Patterns, and Practices", Prentice-Hall, 2002.

- G. Booch, J. Rumbaugh, I. Jacobson: _“El Lenguaje Unificado de Modelado”._

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- I. Jacobson, G. Booch, J. Rumbaugh: _ “El Proceso Unificado de Desarrollo de Software”.
  Addison-Wesley, 2000

COMPLEMENTARY BIBLIOGRAPHY

- Introductory Subjects:

- R. S. Pressman: “Ingeniería de Software: Un enfoque práctico”.

  McGraw-Hill, 2005 (6ª ed.)

- Requirements:

- D. Kulak, E. Guiney: “Use Cases, Requirements in Context”.

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- I. Jacobson: “Object-Oriented Software Engineering. A Use Case Driven Approach”.

  Addison-Wesley, 1992

- Object-Oriented Methodology:

- M. Fowler: "Refactoring: Improving the Design of Existing Code", Addison-Wesley, 1999.
- M. Fowler, K. Scout: “UML Gota a Gota”.

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- J. Conallen: “Building Web Applications with UML”. Addison Wesley, 1999

DEGREE CURRICULUM

DATABASES AND SOFTWARE ENGINEERING II

Coordination: Marta Oliva

Academic year 2015-16

Subject's general information

Subject name	Databases and Software Engineering II
Code	102019
Semester	2n Q Avaluació Continuada
Typology	Obligatòria
ECTS credits	6
Groups	1 GG, 2 GM
Theoretical credits	3
Practical credits	3
Coordination	Marta Oliva
Office and hour of attention	send e-mail to get an appointment.
Department	Informàtica i Enginyeria Industrial
Teaching load distribution between lectures and independent student work	40% presencial; 60% treball autònom
Modality	Presencial
Language	Catalan
Degree	Degree in Computer Enginneering
Distribution of credits	Marta Oliva Solé 3 Juan Manuel Gimeno Illa 6
E-mail addresses	oliva@diei.udl.cat jmgimeno@diei.udl.cat

Teaching staff

Marta Oliva Solé Juan Manuel Gimeno Illa

Subject's extra information

To follow this subject properly the provious knowledge adquired in the subjects Data Bases and Software Engineering is assumed.

Learning objectives

- Define designs which are robust to changes
- Know and be able to apply basic object oriented design patterns
- Knw the concept of software architecture
- Be able to create the persistence layer of an application
- Understand the data storage needs of the users
- Understand the different technologies which facilitate distributed data management
- Understand the different technologies to integrate existing data sources
- Understand the different NoSQL technologies which facilitate the storage og bid volumes of data.

Significant competences

- **Cross-disciplinary competences**
    - Capacity to understand the needs of the user expressed in a no technical language.
- **Specific competences**
    - Capacity to plan, conceive, deploy and direct projects, services and computer systems in all the fields, leading his set up and his continuous improvement and evaluation his economic and social impact.
    - Knowledge and application of the characteristics, functionalities and structure of the databases, that allow their suitable use, and the design and the analysis and implementation of applications based in them.
    - Knowledge and application of the necessary tools for the storage, processing and access to the Systems of information, including those based in web.
    - Knowledge and application of the principles, methodologies and life cycle of the software engineering.
    - Capacity to design and evaluate person-computer interfaces that guarantee the accessibility and usability of systems, services and computer applications.

Subject contents

1. Object-Oriented Design Patters
    - Classifications by purpose and scope
    - Some classic patterns
2. Persistence organization
    - Java Persistence API
    - DAO pattern
3. Introduction to Software Architecture
    - N-tiers
    - Model-View-Controler
    - Dependency injection
4. Distributed Databases (DDB)
    - Data distribution
    - Management aspects of a distributed system
5. Databases integration

- Types of integrated systems
- Systems with wrappers and mediators
- Peer-to-peer systems

6. NoSQL Databases
   - Key-Value Databases
   - Document Databases
   - Column-Family Stores
   - Graph Databases

Methodology

Classes are taught through large group sessions and middle group sessions.

In large group sessions the contents of the course are introduced, using the educational materials prepared by teachers.

In middle group sessions exercisesare solved. They are previously proposed by the teachers and the students have to prepare them. We analyze the pros and cons of the solutions provided by the students.

Development plan

Week		
1	Session 1	Introduction to DEsign Patterns
2	Session 2	Catalog of Patterns
3	Session 3	Catalog of Patterns
4	Session 4	Catalog of Patterns
5	Session 5	Catalog of Patterns
6	Session 6	Object Orientation and persistemce
7	Session 7	Object Orientation and persistemce
	Eastern	
8	Session 8	MVC Architecture
9	Evaluation	
10	Session 9	Distributed Databases
11	Session 10	Distributed Databases
12	Session 11	Distributed Databases
13	Session 12	Databases integration
14	Session 13	iDatabases integration / NoSQL DB
15	Session 14	NoSQL DB
16 17	Evaluation	
18	Tutories	
19	Evaluation	

Evaluation

Denomination	Weight	Weeks	Recoverable?		
Work on design patterns (case study)	10%	3, 4 i 5	No	2 people	OBL

Denomination	Weight	Weeks	Recoverable?		
Programming with patterns (Programming project)	10%	6,7,8,9 i 10	No	2 people	OBL
First midtern	30%	9	Week 20	individual	OBL
Distributed Databases exercise	10%	12 -13	No	2 people	OBL
Integration exercise	10%	14 - 15	No	2 people	OBL
Second midterm	30%	16 - 17	Wee 20	individual	OBL

A midterm is passed if its grade is greater or equal than 4.

With a midterm below 4 the subject is fail.

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- E.Gamma, R.Helm, R.Johnson i J.Vlissides: Patrones de Diseño, Addison-Wesley (1995)
- S.J.Metsker i W.C.Wake: Design Patterns in Java, Addison-Wesley (2006)
- A.Shalloway i J.R.Trott: Design Patterns Explained, 2nd edition, Addison-Wesley (2005)
- M.Fowler: Patterns of Enterprise Application Architecture, Addison-Wesley (2003)
- C.Larman: Applying UML and Patterns, 3rd edition, Prentice-Hall (2005)
- D.R.Prasanna: Dependency Injection, Manning (2009)
- H. GarciaMolina, J.D. Ullman, J. Widom. Database Systems. The Complete Book (2nd edition). Pearson Prentice Hall (2009)
- M. Tamer Özsu; Patrick Valduriez. Principles of Distributed Database Systems (3rd edition). Springer (2011)
- P.J. Sadalage & M. Fowler. No SQL Distilled. A Brief Guide to the Emerging World of Polyglot Persistence . AddisonWesleyProfessional (2012)

DEGREE CURRICULUM

WEB SYSTEMS AND TECHNOLOGIES

Coordination: GARCIA GONZALEZ, ROBERTO

Academic year 2015-16

Subject's general information

<table>
<tr><td>Subject name</td><td>WEB SYSTEMS AND TECHNOLOGIES</td></tr>
<tr><td>Code</td><td>102023</td></tr>
<tr><td>Semester</td><td>2nd Q(SEMESTER) CONTINUED EVALUATION</td></tr>
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<tr><th>Grau/Màster</th><th>Curs</th><th>Caràcter</th><th>Modalitat</th></tr>
<tr><td>Bachelor's Degree in Computer Engineering</td><td>3</td><td>COMPULSORY</td><td>Attendance-based</td></tr>
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<tr><td>ECTS credits</td><td>6</td></tr>
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<tr><td>Theoretical credits</td><td>3</td></tr>
<tr><td>Practical credits</td><td>3</td></tr>
<tr><td>Coordination</td><td>GARCIA GONZALEZ, ROBERTO</td></tr>
<tr><td>Office and hour of attention</td><td>To be agreed with the corresponding professor by e-mail</td></tr>
<tr><td>Department</td><td>INFORMATICA I ENGINYERIA INDUSTRIAL</td></tr>
<tr><td>Teaching load distribution between lectures and independent student work</td><td>Total load: 150h
- Lectures (40%) = 60h
- Independent student work (60%) = 90h</td></tr>
<tr><td>Language</td><td>Catalan</td></tr>
<tr><td>Degree</td><td>Bachelor's Degree in Computer Engineering - Dual Degree: Degree in Computer Engineering and Degree in ADE</td></tr>
<tr><td>Distribution of credits</td><td>Carles Mateu Piñol (3)
Roberto García González (6)</td></tr>
<tr><td>E-mail addresses</td><td>carlesm@diei.udl.cat
rgarcia@diei.udl.cat</td></tr>
</table>

Teaching staff

Professor/a (s/es)	Adreça electrònica professor/a (s/es)	Crèdits	Horari de tutoria/lloc
GARCIA GONZALEZ, ROBERTO	roberto.garcia@udl.cat	6	
MATEU PIÑOL, CARLOS	carlesm@diei.udl.cat	3	

Subject's extra information

To properly follow this subject, it is recommended to have consolidated the programming and databases skills taught in the previous Programming I and II, Data Structures and Databases courses, as well as the skills related to communication protocols presented on the Networks course.

Learning objectives

- Understand and apply the principles, methodologies and life cycles of software engineering on the Web.
- Apply the principles of development for the creation of a Web application, including the collaborative development and shared code repositories.
- Understand the principles of the Web, from the Web 1.0 through 2.0 and future trends of Web 3.0.
- Apply the principles of the Web to the development of highly scalable applications following REST principles and resources oriented architectures ROA.
- Develop REST Web applications using Python and Django.
- Adapt the Web application developed to Web 2.0 principles and then incorporate aspects of Web 3.0.

Significant competences

Cross-disciplinary Competences

EPS7. Capacity to work in situations with a lack of information and/or under pressure.

Specific Competences

GII-CRI11. Knowledge and application of the characteristics, functionalities and structure of the Distributed Systems, the Networks of Computers and Internet and design and implement applications based in them.

GII-CRI14. Knowledge and application of the basic principles and basic techniques of the parallel, concurrent, distributed and of real time programming.

GII-CRI16. Knowledge and application of the principles, methodologies and life cycle of the software engineering.

Subject contents

1. **Origins, Web 1.0** (Carles Mateu)
    - Core technologies of the Web 1.0
        - HTML, CSS, XML, JSON.
        - HTTP
    - Architecture and Patterns for Web 1.0 Applications
        - Client / Server, ...

    - Web 1.0 Application Development
        - Basic client development
        - Basic server development (Django)
2. **Success, Web 2.0** (Roberto García)
    - Core technologies of Web 2.0
        - Javascript, XMLHttpRequest, ...
    - Architecture and Patterns for Web 2.0 applications
        - REST Web services, APIs ...
    - Web 2.0 Application Development
3. **Future, Web 3.0 and Semantic Web** (Roberto García)
    - Core technologies of the Semantic Web
        - RDF, OWL, ...
    - Architecture and Patterns for Web 3.0 applications
        - Linked Data, ...
    - Web 3.0 Application Development

Methodology

The methodology is based on **Project Based Learning** and a Web application is developed using one of the most appropriate frameworks from the educational point of view, Python and Django. It begins by introducing the basics of the Web, called Web 1.0, which students then apply to the lab to develop a Web application. It then continues with the concepts of Web 2.0 and Web 3.0, that students apply iterative and incrementally to develop their project during the course.

Students define their own project, under professors guidance for an homogeneous difficulty, and develop it in **groups of 3 or 4 people**.

Development plan

Weeks 1 – 5: **Web 1.0** (Carles Mateu)

Weeks 6 – 7: **Web 2.0** (Roberto García)

Week 8: **1st Midterm Exam** (Carles Mateu)

Weeks 9 – 12: **Web 2.0** (Roberto García)

1st Deliverable (Carles Mateu)

Weeks 13 – 15: **Web 3.0** (Roberto García)

2nd Deliverable (Roberto García)

Weeks 17 – 18: **2nd Midterm Exam** (Roberto García)

3rd Deliverable (Roberto García)

Evaluation

The evaluation is fundamentally based on the development of a project in a **group of 3 or 4 people**, chosen by the students under the professor guidance, with two intermediate deliverables and a final one:

- 1st Deliverable: 22% grade
  Basic Web application using Web 1.0.
- 2nd Deliverable: 22% grade
  Modern Web application following Web 2.0 principles.
- 3rd Deliverable: 22% grade
  Advanced Web application including Web 3.0 technologies.

The evaluation is complemented with two exams:

- 1st Midterm exam: 17% grade, individual evaluation. Validate knowledge about Web 1.0.
- 2nd Midterm exam: 17% grade, individual evaluation. Validate knowledge about Web 2.0, Web 3.0 and project development.

Bibliography

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- Martelli, Alex (2006). Python in a nutshell (2nd ed.). Sebastopol : O'Reilly. ISBN 0596100469.
- Richardson, Leonard (2007). RESTful Web Services. Newton, Massachusetts: O'Reilly. ISBN 9780596529260
- Bennett, James (2009). Practical Django projects (2nd ed.). New York, NY: Apress. ISBN 9781430219392.
    - Electronic version: https://cataleg.udl.cat/record=b1304148~S11*cat
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    - Electronic version: http://cataleg.udl.cat/record=b1325967~S11*cat
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