In addition to the general offer of courses taught in English, some Centers also offer for incoming students English Friendly Courses (EFC): subjects taught in Spanish, in which the syllabus summary, lecturer tutoring, examinations and/or papers are available in English.

<table>
<thead>
<tr>
<th>FACULTY OF ECONOMICS AND BUSINESS. GIPUZKOÁ DEPARTMENT (251)</th>
<th>SEMESTER</th>
<th>CREDITS</th>
<th>SCHEDULE¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>26431 Sociología de la empresa II: cambio organizativo e innovación</td>
<td>Sep. 2019- Jan. 2020</td>
<td>5</td>
<td>M</td>
</tr>
<tr>
<td>26433 Sistemas y Políticas de Innovación</td>
<td>Sep. 2019- Jan. 2020</td>
<td>5</td>
<td>M</td>
</tr>
<tr>
<td>26421 Finanzas Internacionales</td>
<td>Sep. 2019- Jan. 2020</td>
<td>5</td>
<td>M</td>
</tr>
<tr>
<td>26432 Nuevos Modelos de Gestión</td>
<td>Sep. 2019- Jan. 2020</td>
<td>5</td>
<td>M</td>
</tr>
<tr>
<td>25829 Matemáticas II</td>
<td>Jan. 2020- May 2020</td>
<td>6</td>
<td>M</td>
</tr>
<tr>
<td>26418 Valoración de Empresas</td>
<td>Jan. 2020- May 2020</td>
<td>5</td>
<td>M</td>
</tr>
<tr>
<td>25838 Estructura Económica</td>
<td>Jan. 2020- May 2020</td>
<td>6</td>
<td>A</td>
</tr>
<tr>
<td>26419 Sistema Financiero Internacional</td>
<td>Jan. 2020- May 2020</td>
<td>5</td>
<td>M</td>
</tr>
<tr>
<td>25848 Dirección estratégica: Crecimiento y desarrollo empresarial</td>
<td>Jan. 2020- May 2020</td>
<td>6</td>
<td>M</td>
</tr>
<tr>
<td>26417 Gestión de entidades financieras</td>
<td>Jan. 2020- May 2020</td>
<td>5</td>
<td>M</td>
</tr>
<tr>
<td>25847 Consolidación de Estados Contables</td>
<td>Jan. 2020- May 2020</td>
<td>6</td>
<td>M</td>
</tr>
</tbody>
</table>

¹ SCHEDULE: Morning (M)/ Afternoon (A): begins at 13.30.

By clicking the subject´s name, its Syllabus will appear.
MATHEMATICS I

COURSE DESCRIPTION AND CONTEXT
Taking into account the different modes for students to access the Degree in Business Administration and Management, and since in this degree, mathematics have a basic and instrumental function, the first goal of the course is to unify the knowledge that the students have acquired in their previous education. The second goal of the course is to offer students basic tools of differential calculus and linear algebra, in order to ensure that they master the fundamentals and can use them in other subjects.

COMPETENCES
* An ability to manage basic concepts and techniques of differential calculus and linear algebra.
* An ability to justify the procedures and the formulation of logical arguments properly using deductive reasoning.
* An ability to Formalise quantifiable phenomena related to economic and business science through mathematical models.
* Teamwork

LEARNING OUTCOMES
* Application of basic concepts and techniques of differential calculus and linear algebra to practical assumptions related to economic and business science.
* Being able to employ deductive reasoning to justify procedures and formulate logical arguments.
* Mathematical formalisation of quantifiable economic phenomena in practical cases.
* Problem solving through a collaborative teamwork approach

THEORETICAL-PRACTICAL CONTENT
Part I: SINGLE-VARIABLE CALCULUS
Topic 1. SINGLE-VARIABLE FUNCTIONS
1.1 Concept of function. Definition domain. Graphic representation.
1.2 Reverse function.
1.3 Most frequent functions.
1.4 Piecewise-defined functions. Absolute value function.
1.5 Composite function.
Annex: Conical (circumference, ellipse, hyperbola, parabola)
Topic 2. LIMITS, CONTINUITY AND DERIVATIVES
2.1 Limit of functions. Lateral limits.
2.2 Limit properties. Indeterminations.
2.3 Continuity of a function.
2.4 Derivative function. Geometric meaning.
2.5 Derivative of the composite function (chain rule).
2.6 General derivative rule. Differentiation rules.
2.7 Derivative of the inverse function.
2.8 Successive derivatives.
2.9 Lateral derivatives. Differentiability of a function.
2.10 Continuity and differentiability
2.11 Implicit functions. Differentiation of the implicit function.
2.12 Application of differentiation in economics. Elasticity.
Topic 3. APPLICATIONS OF CONTINUITY AND DIFFERENTIABILITY
3.1 Properties of continuous and differentiable functions (Rolle's Theorem. Mean value theorem).
3.3 Resolving indeterminate forms: L'Hôpital's Rule.
3.4 The differential of a function.
3.5 Polynomial Approximation of Functions: Taylor's formula. Differential and linear approximation.

METHODOLOGY
Lectures (75%) and practical classes (25%).
Practicals are a teamwork resolution workshop.

EVALUATION SYSTEMS
- Continuous evaluation system
- Final evaluation system

GUIDANCE ON CONTINUOUS EVALUATION
Final written test: up to 7.5 points of the mark.
Individual evaluation of teamwork: up to 2.5 points of the mark.

WAIVER
Students may waive continuous evaluation during the first 10 weeks of the term. This waiver must be submitted in writing to the course teaching staff. The students that waive continuous evaluation will get their total mark by means of a final written exam.

ORDINARY EVALUATION: GUIDANCE AND WAIVER
- Written test to be developed 75%
- Teamwork (problem solving, project design). 25%

EXTRAORDINARY EVALUATION: GUIDANCE AND WAIVER
The same criteria as in the ordinary evaluation. However, those students who have been subject to continuous evaluation may waive it and choose to get their total mark by means of a final written exam,
DESCRIPTION & CONTEXTUALISATION OF THE SUBJECT
This subject belongs to the subsidiary subject "Innovation and persons".
The main objective is that students understand the social nature of the company.
A second objective is that students understand innovation in the company context: different innovation processes and innovation results, and the relationship between innovation and its social environment.
A third objective is familiarising students with the human resources management skills that are useful in relation to innovation and change processes in the company.

COMPETENCIES/LEARNING RESULTS FOR THE SUBJECT
The following learning outcomes are expected from students:
1.- Students understand the company as a social institution and as a complex organization.
2.- Students understand the main dimensions of the current socio-economic context and the challenges and opportunities that it offers to the company.
3.- Students get to know company structure and dynamics, particularly in relation to change and innovation.
4.- Students should be able to apply this knowledge in order to analyze real cases of change and innovation in the company.
5.- Students identify and propose decisions and ways of acting in order to facilitate innovation and change in the company.

THEORETICAL/PRACTICAL CONTENT

TOPIC I: The Company as an Open Socio-Economic System
a) The socio-economic context of the company
b) The company as a complex organization

TOPIC II: Innovation Models and Innovation Sectors: Change of Paradigm in Innovation Studies
a) The traditional and dominant paradigm: the STI model
b) Pluralistic models of innovation: The open innovation model
c) Modalities of Innovation
d) Innovative companies: typology
e) Effects of innovation

TOPIC III: Social-Structural Resources and Conditioning for Organizational Change and Innovation
a) Territorial basis of the company
b) Economies of scale and agglomeration economies
c) The new global geography of innovation

TOPIC IV: Organizational Change and Innovation Management
a) Human resources and human capital management
b) Knowledge and innovation management
c) Innovation culture in the company
d) Possibilities and limits of organizational change and innovation

METHODS
In the class sessions, the lecturer will first present the theoretical bases of the different topics.
Practical work will be then carried out based on the analysis of information such as texts, readings, statistical data, and media content.
Debates and presentations will also take place in class time.

In addition, students will carry out practical tasks in teams of 4 persons and will analyze practical cases related to the different topics. They will be presented and debated in class time.
## Types of Teaching

<table>
<thead>
<tr>
<th>Type of teaching</th>
<th>M</th>
<th>S</th>
<th>GA</th>
<th>GL</th>
<th>GO</th>
<th>GCL</th>
<th>TA</th>
<th>TI</th>
<th>GCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom hours</td>
<td>35</td>
<td>2.5</td>
<td>7.5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Hours of study outside the classroom</td>
<td>52.5</td>
<td>3.75</td>
<td>11.25</td>
<td>7.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- **M**: Lecture
- **S**: Seminario
- **GA**: Pract. Class. Work
- **GL**: Pract. Lab work
- **GO**: Pract. computer wok
- **GCL**: Clinical Practice
- **TA**: Workshop
- **TI**: Ind. workshop
- **GCA**: Field workshop

## Assessment Systems
- Final assessment system

## Tools Used & Grading Percentages
- Extended written exam 50%
- Team work (problem solving, project design) 40%
- Exposition of work, readings, etc. 10%

## Ordinary Exam Call: Guidelines & Declining to Sit

Evaluation will be of a continuous nature and will be based on the following items:
- A written exam on the theoretical content of the course (50% of the final mark).
- Practical tasks and practical cases worked on throughout the course by the teams: written reports (40% of the final mark), debates and presentations (10%).

In order to access this evaluation system, students will have to attend at least 80% of the class sessions. They will have to pass both the written exam and the practical part.

According to the University of the Basque Country regulations for undergraduate studies, students can opt out of the continuous evaluation system. In this case they will have the opportunity to be evaluated on the basis of a final exam. This exam will consist of both theoretical and practical questions and exercises, enabling them to obtain 100% of the mark.

## Extraordinary Exam Call: Guidelines & Declining to Sit

In the extraordinary evaluation modality, students will be evaluated on the basis of a final exam. This exam will consist of both theoretical and practical questions and exercises, enabling them to obtain 100% of the mark.

## Compulsory Materials

The detailed schedule of the course and the core texts and materials will be available on the university website (eGela).

## Bibliography

### Basic bibliography


### In-depth bibliography

Useful websites

ADEGI. Asociación de Empresarios de Gipuzkoa: www.adegi.es
COTEC. Fundación Cotec para la Innovación: http://cotec.es/
INNOBASQUE. Agencia Vasca de la Innovación: www.innobasque.com
NESTA: http://www.nesta.org.uk/
The Young Foundation: https://youngfoundation.org/

REMARKS

This subject is included in “English Friendly Contents” initiative.
It means that foreign students may follow the main contents of the subject and communicate with the teacher in English.
The teacher will provide the course program, core bibliography and complementary materials in English. Tutoring, practical tasks and written exam could be also done in this language.
The detailed schedule of the course and the core texts and materials will be available at university website (eGela).
SUBJECT: INNOVATION POLICIES AND SYSTEMS  
Minor: PEOPLE AND INNOVATION  
Academic year: First Semester; 2018/2019  
Number of Credits: 5  
Professor: Amaia Altuzarra  
Room: 0.4  
Class Time: Wednesdays & Thursdays 13:00 - 15:00

COURSE OVERVIEW
The aim of the course INNOVATION POLICIES AND SYSTEMS is to study a broad range of topics on innovation that includes innovation measurement, determinants and strategies. It also covers the study of characteristics and functions of the innovation systems and how public policy can affect innovation and promote competitiveness.

This course is oriented to those students interested in understanding the role of innovation in the competitiveness of firms, regions and countries. The course provides future graduates with tools to understand the main elements and determinants of innovation activities and innovation systems, issues that can be useful for the decision making process in the professional practice.

COMPETENCIES OF THE COURSE
CE1.- Acquire a conceptual and empirical base to understand how innovation affects economies and firms.
CE2.- Analyse real cases and discuss the implications for firms and countries. For this is required:
   — Obtain relevant data from different information sources
   — Organize, transform and graphically process data
   — Economically interpret results using the theoretical approaches
CE3.- Establish the appropriate connections between actors in the innovation system and the results of innovation.
CE4.- Assess the effects that innovation policy may have on firms, regions and countries.
CE5.- Critically analyze, using real data, specific aspects of innovation in firms, sectors, regions and/or countries.

RESULTS OF THE LEARNING PROCESS
RA1.- Classify and relate the different types and indicators of innovation and describe their relevance for firms and the economy.
RA2.- Explain the production of innovation according to different approaches.
RA3.- Interpret the role of actors of the innovation system to foster competitiveness in firms, sectors, regions and countries.
RA4.- Explain the use of the different sectoral patterns of innovation.
RA5.- Classify and relate the main elements that make up the innovation system as well as describe the role that those elements have in the functioning of the system.
RA6.- Explain the determinants of innovation and how they relate with innovation.
RA6.- Extract relevant information on a real situation or occurrence and produce and interpretation in terms of innovation and competitiveness.
COURSE RULES

<table>
<thead>
<tr>
<th>Academic Honesty</th>
<th>This course has a zero tolerance for plagiarism. This includes downloaded material from Internet, copied passages from a book or other sources without proper acknowledgment of the source. In Egela the proper forms of citation will be published.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment submission</td>
<td>All assignments (individual and group tasks) are due on the date specified, uploaded in the Egela platform. Late assignment will have 50% penalty.</td>
</tr>
<tr>
<td>Class Attendance</td>
<td>This course is oriented to encourage discussion and requires a high level of participation. Therefore, regular attendance is expected.</td>
</tr>
<tr>
<td>Class interruptions</td>
<td>Class participation is relevant for the dynamic of the course and for learning. Electronic devices are allowed to follow the lecture or search information related to the class. Mobiles and other devices should remain silent unless otherwise noted.</td>
</tr>
<tr>
<td>Gender perspective</td>
<td>This course will ensure a non-sexist behaviour and use of language.</td>
</tr>
</tbody>
</table>

TOPICS

<table>
<thead>
<tr>
<th>TOPICS (*)</th>
</tr>
</thead>
</table>
| **Topic 1. Innovation: basic concepts**  
This topic answer basic questions regarding innovation: what is innovation?, how innovation is produced?  
1.1. What is innovation?  
1.2. Types of innovation  
1.3. How innovation is produced?  
1.4. Open innovation |
| **Topic 2. Measuring innovation**  
This topic studies the measurement of innovation. Traditional and current indicators are discussed.  
2.1. Introduction: Conceptual foundation for measuring innovation  
2.2. Innovation indicators  
2.3. Oslo Manual |
| **Topic 3. Determinants of innovation**  
This topic addresses the innovation determinants and how they affect different firms |
| **Topic 4. Innovation in sectors**  
This topic focuses on the differences in innovation across sector. Different seminal works are analysed.  
4.1. Introduction  
4.2. Transit map  
4.3. Sectoral patterns of innovation  
4.4. Technological regimes |
| **Topic 5. Innovation Systems**  
This topic studies the elements that make up an innovation system, distinguishing the different agents and institutions and the mechanisms of interaction among them  
5.1. Introduction  
5.2. Innovation Systems Approach  
5.3. Components and Functions of Innovation Systems |
| **Topic 6. Innovation policies**  
This topic addresses the justification of public intervention in the innovation field from different theoretical perspectives. It also revise the scientific, technological and innovation policies.  
6.1. Theoretical justification of public intervention  
6.2. Scientific, technological and innovation policies |

(*) Course introducing session (2 hours), two professionals (4 hours) and seminars 3 and 4 (4 hours) should be included
**TEACHING AND LEARNING METHODOLOGY**

The course has a virtual classroom in Egela where all information related to the course (student guide, weekly planning schedule, calendar, office hours, etc.) and all materials necessary for the development of the course (presentations, class notes, etc.) will be uploaded.

**TYPE OF LEARNING Y TIME DISTRIBUTION**

<table>
<thead>
<tr>
<th>Face to Face Learning</th>
<th>Time Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master class (*)</td>
<td>20h.</td>
</tr>
<tr>
<td>Seminars (PBL methodology)</td>
<td>18.5h</td>
</tr>
<tr>
<td>Computer practices</td>
<td>3.5h</td>
</tr>
<tr>
<td>Professionals</td>
<td>3h</td>
</tr>
<tr>
<td>Written essay</td>
<td>2h</td>
</tr>
<tr>
<td>Total hours</td>
<td>50 hours (47 h. real)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-Presential Activity of the Student</th>
<th>Time Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal study</td>
<td>25h.</td>
</tr>
<tr>
<td>Preparation of seminars (PBL method.)</td>
<td>46h.</td>
</tr>
<tr>
<td>Preparation of written exams</td>
<td>4h.</td>
</tr>
<tr>
<td>Total hours</td>
<td>75 hours</td>
</tr>
</tbody>
</table>

(*) Course introducing session is included

**WEEKLY PLANNING**

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Wednesdays (2 hours)</th>
<th>Wednesdays (2 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC</td>
<td>Introductory session</td>
<td>MC</td>
</tr>
<tr>
<td>Topic 1. Innovation: basic concepts</td>
<td></td>
<td>Topic 1. Innovation: basic concepts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 2</th>
<th>Wednesdays (2 hours)</th>
<th>Wednesdays (2 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC</td>
<td>Topic 1. Innovation: basic concepts</td>
<td>MC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 3</th>
<th>Wednesdays (2 hours)</th>
<th>Wednesdays (2 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC</td>
<td>Basic knowledge test</td>
<td>SEM</td>
</tr>
<tr>
<td>Project 1: Diagnosis of the innovation in the EU</td>
<td>SEM</td>
<td>Project 1: Diagnosis of the innovation in the EU</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 4</th>
<th>Wednesdays (2 hours)</th>
<th>Wednesdays (2 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC/SEM</td>
<td>Project 1: Diagnosis of the innovation in the EU</td>
<td>SEM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 5</th>
<th>Wednesdays (2 hours)</th>
<th>Wednesdays (2 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEM</td>
<td>Project 2: Innovation Week</td>
<td>MC</td>
</tr>
<tr>
<td>Topic 1. Innovation: basic concepts</td>
<td></td>
<td>Topic 1. Innovation: basic concepts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 6</th>
<th>Wednesdays (1.5 hours)</th>
<th>Wednesdays (1.5 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEM</td>
<td>Project 2: Oral presentation</td>
<td>SEM</td>
</tr>
<tr>
<td>Project 2: Innovation Week</td>
<td></td>
<td>Project 2: Innovation Week</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 7</th>
<th>Wednesdays (1.5 hours)</th>
<th>Wednesdays (1.5 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEM</td>
<td>Project 5. Innovation Systems</td>
<td>SEM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 8</th>
<th>Wednesdays (1.5 hours)</th>
<th>Wednesdays (1.5 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC</td>
<td>Topic 5. Innovation Systems</td>
<td>SEM</td>
</tr>
<tr>
<td>Professionals in the classroom</td>
<td></td>
<td>Professionals in the classroom</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 9</th>
<th>Wednesdays (1.5 hours)</th>
<th>Wednesdays (1.5 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC</td>
<td>Topic 5. Innovation Systems</td>
<td>SEM</td>
</tr>
<tr>
<td>Projecto 3: Strengths and weaknesses of the Basque Innovation System</td>
<td>SEM</td>
<td>Projecto 3: Strengths and weaknesses of the Basque Innovation System</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 10</th>
<th>Wednesdays (1.5 hours)</th>
<th>Wednesdays (1.5 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC</td>
<td>Topic 6. Innovation policies</td>
<td>MC</td>
</tr>
<tr>
<td>Topic 6. Innovation policies</td>
<td></td>
<td>Topic 6. Innovation policies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 11</th>
<th>Wednesdays (1.5 hours)</th>
<th>Wednesdays (1.5 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>Proyecto 3: Strengths and weaknesses of the Basque Innovation System</td>
<td>SEM</td>
</tr>
<tr>
<td>Proyecto 3: Strengths and weaknesses of the Basque Innovation System</td>
<td>SEM</td>
<td>Proyecto 3: Strengths and weaknesses of the Basque Innovation System</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 12</th>
<th>Wednesdays (1.5 hours)</th>
<th>Wednesdays (1.5 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEM</td>
<td>Proyecto 3: Strengths and weaknesses of the Basque Innovation System</td>
<td>MC/SEM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 13</th>
<th>Wednesdays (1.5 hours)</th>
<th>Wednesdays (1.5 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEM</td>
<td>Proyecto 3: Strengths and weaknesses of the Basque Innovation System</td>
<td>SEM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 14</th>
<th>Wednesdays (1.5 hours)</th>
<th>Wednesdays (1.5 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEM</td>
<td>Proyecto 3: Oral presentation</td>
<td>SEM</td>
</tr>
<tr>
<td>Projecto 3: Oral presentation</td>
<td></td>
<td>Projecto 3: Oral presentation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 15</th>
<th>Wednesdays (1.5 hours)</th>
<th>Wednesdays (1.5 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEM</td>
<td>Projecto 3: Oral presentation</td>
<td>SEM</td>
</tr>
</tbody>
</table>

**ASSESMENT SYSTEM**

The continuous assessment system has two parts. First, theoretical knowledge will be assessed with two written tests that account for 30% of the final grade. Second, three projects using the Project Based Learning methodology will be assessed. They account for 70% of the final grade.
TOOLS FOR ASSESSMENT

<table>
<thead>
<tr>
<th>SEMINARS (PBL methodology)</th>
<th>Projects (PBL methodology) :</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Test</td>
<td>Written essay :</td>
</tr>
<tr>
<td></td>
<td>It is necessary to obtain a minimum score of 40% in this part of the assessment</td>
</tr>
<tr>
<td>STUDENTS THAT DO NOT TAKE THE FINAL EXAM</td>
<td>Those students that have participated in the different tasks during the term but that do not take the final exam will appear as “NO PRESENT” in their final assessment.</td>
</tr>
<tr>
<td>RESIT</td>
<td>If the student has not failed the course (that is, has not reached 50% of the final grade), they can resit the exam. In this case, the exam will account for 100% of the final grade.</td>
</tr>
</tbody>
</table>

Students can waive the continuous assessment system in the in the terms set out in the regulations of the UPV / EHU.

Students may waive the continuous assessment system before November 1st. In this case, they will take a written exam that will score 100% of the final evaluation. This exam may be made of different parts corresponding to the competences worked during the course.

REFERENCES

BASIC REFERENCES

— OECD (2005), Manual de Oslo: Guía para la recogida e interpretación de datos sobre innovación

COMPLEMENTARY REFERENCES


WEP PAGES

Main institutional web pages that provide data on innovation

— Innovation Policy Platform
— Consejería de Industria, innovación, comercio y turismo del Gobierno Vasco
— COTEC: Fundación para la innovación tecnológica
— DRUID resources
Newspapers with national and international information related to economic issues and also to innovation questions.

- Periódico expansión: http://www.expansion.com/
- Periódico 5días: http://cincodias.com/
- CNNenEspañol www.cnnenespañol.com
- Financial Times www.financialtimes.com

JOURNALS

International journals

- Research Policy
- Economics of Innovation and New Technology
- Journal of Evolutionary Economics
- Small business Economics
- Technovation
- Research-Technology Management
- R&D management
- Journal of Product Innovation Management

National journals

- Cuadernos de Economía y Dirección de la Empresa
- Cuadernos Económicos de ICE
- Información Comercial Española, Revista de Economía
- Papeles de Economía Española
- Revista de Economía Mundial
- Revista Europea de Dirección y Economía de la Empresa

TWITTER AND INNOVATION

<table>
<thead>
<tr>
<th>@EU_H2020</th>
<th>Horizon2020</th>
<th>@expansioncom</th>
<th>Expansión</th>
</tr>
</thead>
<tbody>
<tr>
<td>@cincoDiascom</td>
<td>Cinco días</td>
<td>@IM_Innovation</td>
<td>Innovation Management</td>
</tr>
<tr>
<td>@OECDInnovation</td>
<td>OECD innovation</td>
<td>@OECD_Stat</td>
<td>OECD Statistics</td>
</tr>
<tr>
<td>@H2020SME</td>
<td>H2020 SME Instrument</td>
<td>@_minecogob</td>
<td>Ministerio de Economía</td>
</tr>
<tr>
<td>@TechCrunch</td>
<td>TechCrunch</td>
<td>@OpenInno</td>
<td>Open innovation</td>
</tr>
<tr>
<td>@Cepyme_emprende</td>
<td>Cepyme emprende</td>
<td>@HenryChesbrough</td>
<td>Henri Chesbrough</td>
</tr>
</tbody>
</table>
### Distribution of in-class activities and distant activities of students

<table>
<thead>
<tr>
<th>Week</th>
<th>In class activities</th>
<th>Hours</th>
<th>Deliverables</th>
<th>Distant activities</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Presentación</td>
<td>2</td>
<td></td>
<td>Understanding of the characteristics of the course and lectures on Topic 1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>CM: Topic 1</td>
<td>2</td>
<td></td>
<td>Study of theoretical topics</td>
<td>2</td>
</tr>
<tr>
<td>Week 2</td>
<td>CM: Topic 1</td>
<td>2</td>
<td></td>
<td>Study of theoretical topics and lectures on Topic 2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>CM: Topic 2</td>
<td>2</td>
<td></td>
<td>Study of theoretical topics</td>
<td>2</td>
</tr>
<tr>
<td>Week 3</td>
<td>CM: Topic 2</td>
<td>2</td>
<td></td>
<td>Study of theoretical topics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>CM: Topic 3</td>
<td>2</td>
<td></td>
<td>Study of theoretical topics and test preparation</td>
<td>3</td>
</tr>
<tr>
<td>Week 4</td>
<td>Basic knowledge test</td>
<td>2</td>
<td></td>
<td>Test</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PR1: Diagnosis of the innovation in the EU</td>
<td></td>
<td></td>
<td>E1-0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Team work management</td>
<td></td>
<td></td>
<td>Search and analysis of information</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>PR1: Diagnosis of the innovation in the EU.</td>
<td></td>
<td></td>
<td>Deduction of learning objectives and Working Plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students of theoretical topics</td>
<td></td>
<td></td>
<td>E1-1</td>
<td></td>
</tr>
<tr>
<td>Week 5</td>
<td>PR1: Diagnosis of the innovation in the EU</td>
<td>2</td>
<td></td>
<td>Preparation of final report</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>CM: Topic 4</td>
<td>2</td>
<td></td>
<td>Lectures on Topic 4 and Study of theoretical topics</td>
<td>3</td>
</tr>
<tr>
<td>Week 6</td>
<td>PR2: InnoWeek. Team work management and Deduction of learning objectives</td>
<td>1.5</td>
<td>E2-0</td>
<td>Search and analysis of information</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>PR2: InnoWeek. Poster preparation</td>
<td>1.5</td>
<td>E2-1</td>
<td>Poster and Oral presentation (preparation)</td>
<td>2.5</td>
</tr>
<tr>
<td>Week 7</td>
<td>PR2: InnoWeek. Oral presentation</td>
<td>1.5</td>
<td>E2</td>
<td>Lectures on Topic 5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Professionals in the classroom</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics</td>
<td>2</td>
</tr>
<tr>
<td>Week 8</td>
<td>CM: Topic 5</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Holiday</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics</td>
<td>2</td>
</tr>
<tr>
<td>Week 9</td>
<td>CM: Topic 5</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PR3: Basque Innovation System. Team work management and Deduction of learning objectives</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics and lectures on Topic 6</td>
<td>3</td>
</tr>
<tr>
<td>Week 10</td>
<td>CM: Topic 6</td>
<td>1.5</td>
<td></td>
<td>Search and analysis of information.</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>CM: Topic 6</td>
<td>1.5</td>
<td></td>
<td>Preparation of Draft 1</td>
<td>2</td>
</tr>
<tr>
<td>Week 11</td>
<td>PR3: Basque Innovation System. Data</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics and test preparation</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>PR3: Basque Innovation System. Data</td>
<td>1.5</td>
<td></td>
<td>Search and analysis of information.</td>
<td>5</td>
</tr>
<tr>
<td>Week 12</td>
<td>PR3: Basque Innovation System. Agents</td>
<td>1.5</td>
<td></td>
<td>Search and analysis of information and Preparation of Draft 2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Basic knowledge test</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics and test preparation</td>
<td>6</td>
</tr>
<tr>
<td>Week 13</td>
<td>PR3: Basque Innovation System. Policies</td>
<td>1.5</td>
<td></td>
<td>Preparation of final report and/or oral presentation</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Holiday</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics</td>
<td>6</td>
</tr>
<tr>
<td>Week 14</td>
<td>PR3: Basque Innovation System. Final report</td>
<td>1.5</td>
<td></td>
<td>Preparation of final report and/or oral presentation</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>PR3: Oral presentation</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics</td>
<td>6</td>
</tr>
<tr>
<td>Week 15</td>
<td>PR3: Oral presentation</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Professionals in the classroom</td>
<td>1.5</td>
<td></td>
<td>Study of theoretical topics</td>
<td>6</td>
</tr>
</tbody>
</table>

PR1, PR2 y PR3 refer to the three projects that will be carried out during the term.

Deliverables E1-0, E2-0 y E3-0 refer to the group operating rules. Deliverables E1-1, E2-1 y E3-1 refer to the phases of the Project Based Learning (PBL) methodology and plan of work. Deliverables E1, E2 y E3 refer to the final project (E3-P1, E3-P2 y E3-P3 are intermediate drafts that make up project E3). All deliverables are compulsory.
INTERNATIONAL FINANCE

DESCRIPTION

The subject of International Finance aims to give the student insights into the currency market. It also sets out to help the student learn about the entities, brokers and other means for the management of operations in the international market. Specifically, the following are analysed:

First, provide information on financial business management in purchase-and-sale operations in the international market.

Second, explain the mechanisms of collection and payment used in international operations, refer to their characteristics, understand their use, study the stakeholders involved in these processes…

Third, go into detail on the currency markets and the business management of exchange rate risk coverage, mainly through exchange rate insurance and currency options.

STRUCTURE:

THEME 1: FINANCIAL BUSINESS MANAGEMENT: INTERNATIONAL PURCHASE-AND-SALE AGREEMENTS

THEME 2: COLLECTION AND PAYMENT MECHANISMS IN FOREIGN TRADE.

THEME 3: EXCHANGE RATE RISK: CURRENCY MARKET AND COVERAGE.

SPECIFIC COMPETENCES

- Skills in the understanding, interpretation and analysis of the data provided by international sources of financial information.

- Mastery of the specific characteristics and operation of the currency market.

- Knowledge of the basic factors that determine exchange rates and their influence on business management.

- Knowledge of the concept of exchange rate risk, its repercussions on business and the methods available for its measurement and coverage.

- Ability to observe, detect and analyse the exchange rate risk of a company or specific organisation, and decide on the management alternatives for that risk, with or without coverage.

OUTCOMES

- Identification of international sources of finance.

- Analysis and solving of problems related to currency markets and exchange rate risk.

- Evaluation and analysis of the reasons that explain exchange rate risk.
- Evaluation of the different methods of management and coverage of exchange rate risk.
- Consultancy reports on the financial situation of a company, drawn up with the appropriate terminology.

**CONTINUOUS ASSESSMENT:**

1) **Final exam.** Assessment will be done through a final exam (70% of the final grade), consisting of a series of questions of a theoretical and practical nature to be answered by the student. This exam will consist of three parts: 1) a test type exam to assess theoretical aspects, in which incorrect answers will be penalised; 2) a series of theoretical-practical questions and 3) an exercise to develop and present conclusions. For this third part to be assessed, the student must pass (4 points out of 10) in the first and second part.

2) **Practical classwork and group work** (30% of the final grade). Up to 1.5 points will be added to the final grade for the preparation and defence of an additional compulsory group project, and a further 1.5 additional points for carrying out activities of compulsory nature in the classroom (presentations, commentaries on articles, participation in debate fora, exercises, etc.) that take place throughout the course. Practial classwork and group work will be provided if the exam note is higher than 4 out of 10.

The points obtained through any of the work/projects proposed (max. 3 points/30% of the final grade) will be considered definitively earned, i.e. they will be valid for the two calls of the following academic year provided a mark of 40% has been achieved in the final exam.
MATHEMATICS II

COURSE DESCRIPTION AND CONTEXT
Two mathematics courses are taught as part of the first year curriculum of the Degree in Business Administration: Mathematics I and Mathematics II. The understanding of single-variable functions and linear algebra acquired in Mathematics I is the basis for Mathematics II, in which functions with several variables, which are fundamental for the analysis and understanding of economic models, are studied. Optimising single- and multivariable functions, with or without restrictions, is a very important tool for decision making in a company, so some mathematical procedures for solving optimisation problems are studied. However, the main goal of the course is to provide students with the necessary quantitative tools to be able to rigorously pose and analyse economic problems. Therefore, problems with economic text will be proposed, from which the student must be able to identify the components to formulate the relevant mathematical model and then solve it. In addition, the use of computers in problem solving will be included.

COURSE COMPETENCES / LEARNING OUTCOMES
The general objective of this subject is to provide students with the mathematical tools necessary to be able to process information within a business context, as well as rigorously pose and analyse economic problems. General competences:
- Ability to analyse and synthesise.
- Using deductive reasoning in justifying and formulating procedures and logical arguments.
- Ability to interpret and classify the various solutions, as well as drawing conclusions applicable to business contexts.
- Capacity for teamwork. Learning outcomes:
  - Being able to expand concepts learned in secondary education and Mathematics I, which referred to single-variable functions and to multivariable functions.
  - An understanding of the basic tools of multivariable differential calculus.
  - An ability to analyse and solve optimisation problems with and without restrictions.
  - Application of the above concepts to the approach and resolution of economic problems.
  - Being able to use the EXCEL SOLVER tool of linear and non-linear programming problems.

THEORETICAL-PRACTICAL CONTENT
Topic 1: MULTIVARIABLE FUNCTIONS
* Topology basics
  * Functions with two or more variables
  * Graphic representation. Contour lines
  * Continuous functions. * Key continuous functions.
Topic 2: DIFFERENTIATION
* Partial derivatives. Geometric interpretation
  * Gradient
  * Higher order partial derivatives. Hessian matrix
  * Linear approximations. Tangent plane to a surface
  * Taylor’s theorem applied to multivariable functions
  * Differentiation of composite functions. Chain rule
* Implicit functions. Differentiation
* Homogeneous functions. Properties
* Partial derivatives in Economics.

Topic 3: SINGLE-VARIABLE OPTIMISATION
* Prior definitions. Types of optima
* Necessary condition of local optimum. Stationary points
* Sufficient condition of local optimum.
* Absolute extrema on an interval
* Concave and convex functions. Inflection points. Sufficient condition of global optimum

Topic 4: UNCONSTRAINED MULTIVARIABLE OPTIMISATION
* Quadratic forms. Classification
* General approach to multivariable optimisation problem
* Types of optima Extreme value theorem
* Necessary condition of strict local optimum. Stationary points. Saddle points
* Sufficient condition of strict local optimum.
* Concave and convex functions. Sufficient condition of global optimum

Topic 5: OPTIMISATION WITH EQUALITY CONSTRAINTS
* General approach
* Graphic resolution of a small dimension problem
* Direct method of resolution by elimination of variables (substitution)
* LaGrange multiplier method: Necessary condition of local optimum
* Sufficient condition of local optimum.
* Economic interpretation of LaGrange multipliers
* Solving non-linear optimisation models using the Microsoft EXCEL SOLVER tool

Topic 6: LINEAR PROGRAMMING
* General approach. Canonical form
* Geometric representation and graphic resolution of problems with two decision variables.
  Extreme Point Theorem
* Introduction to the theory of duality. Economic interpretation of dual
* Duality Theorems. Complementary slackness
* Solving linear programs using the Microsoft EXCEL SOLVER tool

Topic 7: INTEGRATING MULTIVARIABLE FUNCTIONS
* General approach
* Double integrals over rectangular regions
* Average value of a function over a rectangular region
It is one of the subjects which are part of the Minor Degree in Finance, indifferent in the Degree course.

The main objective of this course is for the student to acquire knowledge about the fundamentals of company valuation, by reviewing the methods of valuation of existing companies, their characteristics and their limitations. The goal is to convey to students the basic principles of the business valuation process, as well as its importance and applicability in company mergers and acquisitions, in the evaluation of the business management, as a tool to measure the creation of value, in the outflows of companies, etc.

In order to learn this subject without undue difficulty, it is necessary to master or have a good understanding of economic-financial concepts and investment theory.

- Mastering the main methods of valuation of companies.
- Gaining a critical view of the different valuation methodologies.
- Identifying the most appropriate valuation methodology in each case.
- Determining the financial economic value of any company, merger or acquisition.

**TOPICS**

**FUNDAMENTALS OF BUSINESS VALUATION**

**BALANCE SHEET-BASED VALUATION METHODS**

**DISCOUNTED CASH FLOW VALUATION METHODS**

**MULTIPLES APPROACH VALUATION METHODS**

**VALUATION OF COMPANY MERGERS AND ACQUISITIONS**

**Combination of the following methodologies:**

- Lectures: Presentation of basic concepts and the tools and techniques that the student must understand to achieve the proposed knowledge objectives and exercises to be solved in class by the teacher.

- Classroom practicals: Exercises, case studies and/or readings will be presented and will be worked out in class and the students will attempt to solve them and present their solutions in class. Part of the group work can also be done in these class hours.

- Out-of-classroom assignments. Part of the contents of the classroom practicals will be complementary work carried out outside the classroom by the students.

It will be mixed type and consist of:

- **Continuous evaluation:** 30% of the course mark. It will consist of case solutions, presentations of readings and/or other activities related to the subject, carried out in a group or individually. Should a presentation of an assignment be required, it will be part of the evaluation.
- **Individual final exam**: 70% of the course mark. A written examination will be done, that will consist of two questions: 1) a theoretical part and 2) practical tasks. To pass the exam, the student should at least pass half of the score of each part (50%).

The final mark will be the sum of the scores achieved in the two evaluations mentioned. The sum will be carried out only if the minimum scores established for each evaluation are attained (1 point in continuous assessment and 3, 5 points in the final exam). Students will pass the course provided the final mark is at least 5 points.

Students may waive the continuous evaluation (or mixed evaluation) system and opt for final evaluation, regardless of whether they have participated in continuous evaluation. The deadline for requesting the waiver is 9 weeks from the beginning of the term and must be in writing, using the specific section on eGela. No other ways will be taken into account.

Valuation criteria described for the ordinary evaluation. Students who have not opted for mixed evaluation or who have not reached the minimum grade required in continuous evaluation, will write the final exam, comprising 100% of the final mark.

Basic and complementary materials will be available to students both on the eGela platform or in the print & copy service.
**Economic Structure**

**DESCRIPTION & CONTEXTUALISATION OF THE SUBJECT**

**KEYWORDS**

**CONTENT:**
1st) The formation of the current Spanish economic structure in its European and global context.
2nd) Productive sectors: basic characteristics, magnitudes and composition.
3rd) Analysis of the situation of the Spanish economy.
4th) Major study sources. Case studies.

**COMPETENCES/LEARNING OUTCOMES FOR THE SUBJECT**

**SKILLS/KEYWORDS/GOALS**

**SKILLS:**
Analyze an economy as a specific institutional framework, summarizing the results.
Apply theoretical knowledge to the interpretation and identification of possible solutions to specific problems of an economy and, specifically, of the Spanish economy.
Handle economic concepts, analytical tools and statistics sources for structural economic analysis.
Understand that all economic reality is conditioned by the value systems of stakeholders, whether explicit or implicit.

**THEORETICAL/PRACTICAL CONTENT**

**CONTENT**
Lesson 1: Evolution of the global economy
Lesson 2: Comparative analysis of the evolution of the macro-economic variables
Lesson 3: Balance of Payments: definition, characteristics and key trends
Lesson 4: The institutional sectors of the Spanish economy
Lesson 5: Analysis of the main economic sectors

Lesson 1: Evolution of the global economy
**Content:**
- describe the concept of economic development and show its main determining factors
- describe the main demographic and energy trends
- describe the major global economic trends
- show the global structure and classify countries according to their level of development
- summarize the main challenges of global economic policy.

Lesson 2: Comparative analysis of the evolution of macro-economic variables
**Content:**
- describe the economic evolution of the developed areas of the world (USA, EU, Japan)
• describe the evolution of the major emerging economies (China, India, Brazil, Russia)
• describe the general development of the least developed countries
• In each case, summarize the similarities and differences observed.

Lesson 3: Balance of Payments: definition, characteristics and key trends
Content:
• Definition and main sub-balances
• Major trends in international trade of goods and services
• Major trends in international capital flows.

TOOLS USED & GRADING PERCENTAGES
Show the globalization of international transactions.

Lesson 4: The institutional sectors of the Spanish economy
Content: the concept of institutional framework
• the international institutional framework (IMF, WTO, etc.)
• the institutional framework and the division of competences in economic policy in Spain
• describe the concept of labour market and the main features of the Spanish labour market
• describe the concept of financial system and the main features of the Spanish financial system
• describe the concept of public sector and the main features of the Spanish public sector
• describe the consolidated government budget and its main characteristics
• show the impact of ageing on social security, the labour market and public finances.

Lesson 5: Analysis of the main economic sectors
Content:
• describe the activities of the service sector and show the main characteristics of the Spanish tertiary sector
• describe the activities of the industrial sector and show the main characteristics of the Spanish secondary sector
• describe the activities in agriculture and show the main characteristics of the Spanish primary sector
• show the adaptation of the Spanish productive structure to changes in the international environment
• summarize the strengths and weaknesses of the Spanish productive structure
• summarize the main challenges of Spanish economic policy.

METHODS
EVALUATION
• Written exam
• Individual work: Text commentary and case resolution
• Group work: Problem-based learning and project
• Presentations
EVALUATION CRITERIA
There are two options to evaluate: continuous and non-continuous assessment.

Continuous assessment. The following activities will take place:
- Text commentary: texts that are sent out weekly for commentary, oral and written. Held individually. 35% of final mark
- Practices: practical case resolution (individual) and problem-based learning (group). 25% of final mark
- Project. Held in groups. 40% of final mark.
- Written proof of minimum knowledge: it will be compulsory to pass this exam to achieve the mark obtained in continuous assessment
Assessment of compulsory attendance will be followed. Deadlines should be absolutely respected in order to have the right to continuous assessment.

Non-continuous assessment: By a final exam. This exam will be prepared by previously distributed texts and articles.

ASSESSMENT SYSTEMS
- Continuous assessment system
- Final assessment system

ORDINARY EVALUATION: GUIDELINES & WAIVER
- Extended written exam 90%
- Practical work (exercises, case studies & problems set) 10%
SUBJECT: INTERNATIONAL FINANCIAL SYSTEM
Minor: FINANCE
Academic year: Second Semester; 2018/2019
Number of Credits: 5
Professor: Amaia Altuzarra
Room: 0.4
Class Time: Wednesdays & Thursdays 9:00 -11:00

COURSE OVERVIEW

The aim of the course INTERNATIONAL FINANCIAL SYSTEM is to study a broad range of topics on the international financial system, financial markets (particularly, the exchange market), monetary policy and central banks. It also covers the study of characteristics of the different generations of financial crisis and special attention is paid to the causes and development of the recent financial crisis.

This course is oriented to those students interested in understanding the functioning of the international financial system and how such functioning can affect business decisions. The course provides future graduates with tools to understand the main elements of the financial system and the way in which international financial institutions may affect its functioning, issues that can be useful for the decision making process in the professional practice.

COMPETENCES OF THE COURSE

Ce1. - Acquire a general overview of the international financial systems
Ce2. - Analyse real cases related to the international markets and discuss the influence in the financial decisions of firms.
For this is required:
   — Obtain relevant data from different information sources
   — Organize, transform and graphically process data
   — Economically interpret results using the theoretical approaches
Ce3. - Assess the effects that the exchange rate, expectations and monetary policy can have in the expected returns of financial assets
Ce4. - Establish the appropriate connections between financial globalization, capital movements, central banks and the stability of the international financial system
Ce5. - Critically analyze, using real data on financial events, the causes and consequences of financial crisis and how crisis are managed by institutions

RESULTS OF THE LEARNING PROCESS

Ra1. - Classify and relate the main elements that make up the international financial system (markets, financial intermediaries and institutions) as well as describe the role that those elements have in the functioning of the international financial system
Ra2. - Explain how exchange rates are determined according to the Assets Approach Theory, with special attention to expectations.
Ra3. - Interpret, in economic terms, the role of central banks in the exchange market and how their interventions may affect exchange rates and financial stability.
Ra4. - Make judgements on the role of international financial institutions and regulations over the history of the international financial system
RA5. Apply the knowledge acquired on theories to explain real situations.

RA6. Extract relevant information on a real situation or occurrence and produce and interpretation of an financial event

COURSE RULES

<table>
<thead>
<tr>
<th>Academic Honesty</th>
<th>This course has a zero tolerance for plagiarism. This includes downloaded material from Internet, copied passages from a book or other sources without proper acknowledgment of the source. In Egela the proper forms of citation will be published.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment submission</td>
<td>All assignments (individual and group tasks) are due on the date specified, uploaded in the Egela platform. Late assignment will have 50% penalty.</td>
</tr>
<tr>
<td>Class Attendance</td>
<td>This course is oriented to encourage discussion and requires a high level of participation. Therefore, regular attendance is expected.</td>
</tr>
<tr>
<td>Class interruptions</td>
<td>Class participation is relevant for the dynamic of the course and for learning. Electronic devices are allowed to follow the lecture o search information related to the class. Mobiles and other devices should remain silent unless otherwise noted.</td>
</tr>
<tr>
<td>Gender perspective</td>
<td>This course will ensure a non-sexist behaviour and use of language.</td>
</tr>
</tbody>
</table>

TOPICS

<table>
<thead>
<tr>
<th>TOPICS (*)</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic 1. Overview of the international financial system</td>
<td>6 hours</td>
</tr>
<tr>
<td>This topic presents an overview of the elements (markets and institutions) that make up the financial system.</td>
<td></td>
</tr>
<tr>
<td>1.1. Financial system and international financial system</td>
<td></td>
</tr>
<tr>
<td>1.2. Financial instruments</td>
<td></td>
</tr>
<tr>
<td>1.3. Financial markets</td>
<td></td>
</tr>
<tr>
<td>1.4. Financial institutions</td>
<td></td>
</tr>
<tr>
<td>Topic 2. Current account, external debt and net investment position</td>
<td>10 hours</td>
</tr>
<tr>
<td>This topic studies the main transactions of the balance of payments, with special attention to financial account.</td>
<td></td>
</tr>
<tr>
<td>2.1 Concept and structure of the Balance of Payments</td>
<td></td>
</tr>
<tr>
<td>2.2 Economic interpretation of the main balances of the Balance of Payments</td>
<td></td>
</tr>
<tr>
<td>2.3 Case study: External deficit in Spain</td>
<td></td>
</tr>
<tr>
<td>Topic 3. Exchange market and determination of the exchange rates</td>
<td>10 hours</td>
</tr>
<tr>
<td>This topic addresses the functioning of the exchange market and the determination of the exchange rate. It also explains the relationship between the exchange rate, expectations and monetary policy.</td>
<td></td>
</tr>
<tr>
<td>3.1 What are the exchange rates?</td>
<td></td>
</tr>
<tr>
<td>3.2 Determination of the exchange rate in the short run</td>
<td></td>
</tr>
<tr>
<td>3.3 Exchange rates, interest rates and monetary policy</td>
<td></td>
</tr>
<tr>
<td>Topic 4. Systems of exchange rates, capital flows and globalization</td>
<td>8 hours</td>
</tr>
<tr>
<td>This topic studies how central banks operate in the exchange markets to affect the exchange rates. It studies the fixed and flexible exchange rates systems. It also revises the functioning of the monetary financial system over the history.</td>
<td></td>
</tr>
<tr>
<td>4.1 Introduction: interventions in the exchange markets</td>
<td></td>
</tr>
<tr>
<td>4.2 Central banks</td>
<td></td>
</tr>
<tr>
<td>4.3 Exchange regimes</td>
<td></td>
</tr>
<tr>
<td>4.4 Evolution of the International Financial System</td>
<td></td>
</tr>
<tr>
<td>Topic 5. Innovation Systems</td>
<td>Outside the classroom</td>
</tr>
<tr>
<td>This topic studies the institutions of the international financial system</td>
<td></td>
</tr>
</tbody>
</table>
Topic 6. Economic and Monetary Union: European Central Bank (ECB)
This topic studies the role of the European Central Bank in the financial markets and its decision making process.
6.1 Phases of the EMU
6.2 Institutions of the EMU
6.3 The two speed Europe: ERM-II

Topic 7. Financial crisis
This topic studies why crisis occur and why they are so persistent during the last decades. It examines the models of financial crises and explain the causes and development of the recent financial crisis.
7.1 What is a financial crisis?
7.2 Models of financial crisis
7.3 Dynamic of financial crisis in developed and emerging economies
7.4 Case study: the USA financial crisis

(* ) Course introducing session is included

TEACHING AND LEARNING METHODOLOGY
The course has a virtual classroom in Egela where all information related to the course (student guide, weekly planning schedule, calendar, office hours, etc.) and all materials necessary for the development of the course (presentations, class notes, etc.) will be uploaded.

<table>
<thead>
<tr>
<th>TYPE OF LEARNING</th>
<th>TIME DISTRIBUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACE TO FACE LEARNIG</td>
<td>50 hours</td>
</tr>
<tr>
<td>Master class (*)</td>
<td>32h.</td>
</tr>
<tr>
<td>Practical class</td>
<td>4h.</td>
</tr>
<tr>
<td>Seminars</td>
<td>4h</td>
</tr>
<tr>
<td>Computer practices</td>
<td>8h</td>
</tr>
<tr>
<td>Final exam</td>
<td>2h</td>
</tr>
<tr>
<td>NON-PRESENTIAL ACTIVITY</td>
<td>75 hours</td>
</tr>
<tr>
<td>OF THE STUDENT</td>
<td></td>
</tr>
<tr>
<td>Personal study</td>
<td>50h</td>
</tr>
<tr>
<td>Preparation of seminars</td>
<td>4h</td>
</tr>
<tr>
<td>Preparation of practical classes</td>
<td>4h</td>
</tr>
<tr>
<td>Preparation of computer practices</td>
<td>8h</td>
</tr>
<tr>
<td>Preparation of exam</td>
<td>9h</td>
</tr>
<tr>
<td>Total hours</td>
<td>125 hours</td>
</tr>
</tbody>
</table>

(* ) Course introducing session is included
## WEEKLY PLANNING SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>MC</th>
<th>Thursday (2 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Introductory session</td>
<td><strong>MC</strong> Topic 1. Overview of the International Financial System.</td>
</tr>
<tr>
<td>Week 2</td>
<td>MC</td>
<td><strong>MC</strong> Topic 2. Financial account, external debt and net investment position</td>
</tr>
<tr>
<td>Week 3</td>
<td>MC</td>
<td><strong>PRC</strong> Topic 2. External deficit in Spain</td>
</tr>
<tr>
<td>Week 4</td>
<td>CP 1(1)</td>
<td><strong>CP 1(2)</strong> Topic 2. External deficit, financial flows and net investment position</td>
</tr>
<tr>
<td>Week 5</td>
<td>MC</td>
<td><strong>MC</strong> Topic 3. Exchange market and determination of exchange rates</td>
</tr>
<tr>
<td>Week 6</td>
<td>MC</td>
<td><strong>MC</strong> Topic 3. Exchange market and determination of exchange rates</td>
</tr>
<tr>
<td>Week 7</td>
<td>MC</td>
<td><strong>SEM 1</strong> Topic 1 – Topic 2- Topic 3</td>
</tr>
<tr>
<td>Week 8</td>
<td>PO 2</td>
<td><strong>MC</strong> Topic 3. Interest rates differentials, expectations and exchange rates</td>
</tr>
<tr>
<td>Week 9</td>
<td>MC</td>
<td><strong>MC</strong> Topic 4. Regimes of Exchange rates, capital flows and globalization</td>
</tr>
<tr>
<td>Week 10</td>
<td>MC</td>
<td><strong>MC</strong> Topic 4. Regimes of Exchange rates, capital flows and globalization</td>
</tr>
<tr>
<td>Week 11</td>
<td>MC</td>
<td><strong>PO 3</strong> Topic 6. Economic Monetary Union. European Central Bank</td>
</tr>
<tr>
<td>Week 12</td>
<td>MC</td>
<td><strong>MC</strong> Topic 7. Financial crisis</td>
</tr>
<tr>
<td>Week 13</td>
<td>NO LECTIVO</td>
<td><strong>PRC</strong> Topic 6. Financial crisis in USA</td>
</tr>
</tbody>
</table>

**MC**: Master Class; **PRC**: Practical Class; **CP**: Computer Practical; **SEM**: Seminar.

## ASSESSMENT SYSTEM

The assessment system has two parts. First, students have to take a written exam with theoretical and practical short questions. This exam accounts for the 70% of the final grade. Second, group works, computer practices and other tasks will be assessed and account for 30% of the final grade. All tasks and exercises carried out in class are indicative of the questions that will appear in the exams.

### TOOLS FOR ASSESSMENT

<table>
<thead>
<tr>
<th>SEMINARS</th>
<th>Individual/group questions</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPUTER PRACTICALS</td>
<td>Students will participate in 3 Computer Classes, each one will account for 5% of the final grade. Only students that participate in these classes will benefit from this grade. TOTAL computer classes</td>
<td>15%</td>
</tr>
<tr>
<td>GROUP WORK</td>
<td>TOTAL group work</td>
<td>5%</td>
</tr>
<tr>
<td>FINAL EXAM</td>
<td>Final Exam</td>
<td>70%</td>
</tr>
<tr>
<td>STUDENTS THAT DO NOT TAKE THE FINAL EXAM</td>
<td>Those students that have participated in the different tasks during the term but that do not take the final exam will appear as “NO PRESENT” in their final assessment.</td>
<td></td>
</tr>
<tr>
<td>RESIT</td>
<td>If the student has not failed the course (that is, has not reached 50% of the final grade), they can resit the exam. In this case the exam will account for 100% of the final grade.</td>
<td></td>
</tr>
</tbody>
</table>

## REFERENCES

**BASIC REFERENCES**


**COMPLEMENTARY REFERENCES**
— Banco de España (2014) Balanza de Pagos y Posición de Inversión Internacional, Banco de España

WEP PAGES
Main institutional web pages that provide data on financial issues
— World Bank www.worldbank.org
— Bank of International Settlements www.bis.org
— International Monetary Fund www.imf.org
— European Central Bank www.ecb.int
— Spanish Central Bank www.bde.es
— Federal Reserve http://www.federalreserve.gov/
— General Insurance and Pension Funds Directorate http://www.dgsfp.mineco.es/
— National Securities Market Commission www.cnmv.es
— Spanish Stock Exchanges and Markets www.bolsasymercados.es
— Option and Future Marktes www.meff.es
— Bond Market www.aiaf.es

Pages with financial data for countries
— http://www.finanzas.com
— http://es.investing.com
— http://es.global-rates.com
— http://www.datosmacro.com
— http://www.tradingeconomics.com
— http://www.bloomberg.com/

Newspapers with national and international information related to economic issues.
— Periódico expansión: http://www.expansion.com/
— Periódico 5días: http://cincodias.com/
— CNN Financial News www.cnnfn.com
— Financial Times www.financialtimes.com
JOURNALS

International journals

Journal of Banking & Finance
Journal of financial economics
Journal of International Economics
Journal of Macroeconomics
Journal of Monetary Economics
Review of Radical Political Economics

National journals

Cuadernos de Economía y Dirección de la Empresa
Cuadernos Económicos de ICE
Información Comercial Española. Revista de Economía
Moneda y Crédito
Papeles de Economía Española
Revista de Economía Financiera
Revista de Economía Mundial
Revista Europea de Dirección y Economía de la Empresa

TWITTER, APPs FOR THE COURSE

TWITTER

@BancoMundial  World Bank  @federalreserve  Federal Reserve
@cincoDiascom  Cinco días  @IMFNews  International Monetary Fund
@DowJones  Dow Jones  @PrimaRiesgoBot  PrimaRiesgoBot
@ebc  European Central Bank  @WSJecon cs  Real Time Economics
@expansioncom  Expansión

APPs


Virtual Economy game: Can you control inflation? Have you got what it takes to be among central banking’s best?

Eurorisk: Information on risk Premium, ten-year bond yield, public debt, public deficit, unemployment rate, growth rate, GDP, GDP per capita

Infobolsa: monitor of financial markets, main world indicators, foreign Exchange market, risk Premium, interest rates, etc

This app provides national debt on more than 180 countries.

Renta 4. Allows to know the evolution of financial markets in real time.
Overview

The course Strategic Management: Growth and Development (6 ECTS) is a basic branch subject of the 2nd semester of the 3rd year of the Degree in Business Administration and Management (DBAM).

The general aim of the DBAM (240 ECTS) is to provide the future graduate with both economic and business knowledge as well as the competences and skills necessary to perform a wide range of administrative and management duties. In this respect, the graduate will be able to form part of a company or other organisation by taking up posts that entail high qualifications and major responsibility in any of its functional areas, which will enable them to act professionally both in the private sector (companies, banks, consultancy firms, etc.) and in the public sector (local entities, provincial councils, etc.), in addition to being qualified to set up their own business. They will also be able to take up other professional options such as teaching and research activity.

Learning Objectives: This course is designed to help the student, integrate and apply the earlier functional courses. The course takes the general management point of view, emphasizing the creation, implementation and evaluation of strategy in organizations. In addition to focusing on for-profit businesses, this section includes a module on strategy in non-profits as well. Students will be put in the shoes of top management and make the really important "Big Picture" decisions. Students will develop expertise in the analysis of complex business situations and in clearly presenting their findings both orally and in writing. You will also further develop their ability to work effectively in teams.

Topics

1: GROWTH IN BUSINESS
2: EXTERNAL GROWTH IN BUSINESS
3: STRATEGIC ALLIANCES
4: INTERNATIONALISATION STRATEGY
5: MULTINATIONAL ENTERPRISE

6: INNOVATION ESTRATEGY

**Grading Policy**

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Exam</td>
<td>35%</td>
</tr>
<tr>
<td>Final Paper</td>
<td>20%</td>
</tr>
<tr>
<td>Presentation</td>
<td>20%</td>
</tr>
<tr>
<td>Participation</td>
<td>20%</td>
</tr>
<tr>
<td>5% &quot;floats&quot;</td>
<td>to the best of the above</td>
</tr>
</tbody>
</table>

**Case Discussions/Participation**

The case situations the student will be reading about and which the student will be expected to analyze and discuss in class are complex, unstructured and may defy precise treatment. Often, information the student might wish to have will be incomplete or lacking. In addition, may possess only limited technical or functional expertise. Yet, the students will be expected to commit themselves to a sensible and workable strategic course of action and be able and willing to justify their choice. In that sense, the student will find him-herself in exactly the same situation managers have to face in the "real world". It will be important that the student do quantitative financial analysis as well as qualitative synthesis and analysis of case facts.

Class participation involves summarizing the situation in the case, performing a piece of analysis, asking a helpful question, tying the case together, recommending a solution - in other words, whatever helps the class explore the ramifications of the case effectively. Participation is not just talking for air-time's sake. We are interested in both the quality and quantity of students's contributions to discussions.

Participation by each student in class discussions, whether in-person or via live chat, is an essential part of this course. Such participation is required because the class discussions are the major vehicle for improving their capabilities in dealing with situations involving the formulation and implementation of strategy. The student should, therefore, prepare the assigned material prior to class, actively participate in class discussions and be ready to defend his/her comments against constructive criticism by other members of the class.

As the students mainly will learn from checking their ideas, reasoning, and hunches with those of others, the student does have an obligation to participate. Students own experiences and ideas are an important part of the learning process for all in the class -- while listening is important, so is contributing to the discussion. Attendance by itself does not constitute participation.

**Bibliography**


**Bibliography in Spanish.**
Journals

We encourage students to follow stories and reports in business publications like The Wall Street Journal, Bloomberg Business Week, Fortune and The Chronicle of Higher Education and to relate course concepts to day-to-day events in the business world.

Other journals

Ekonomiaz. http://www1.euskadi.net/ekonomiaz
Emprendedores: http://wwwemprendedores.es

In the classroom students are expected to act professionally. Therefore, the use of laptops is only permitted for taking notes. Web surfing and other non-class-related activities on laptops are strictly prohibited. Failure to adhere to this policy will jeopardize students participation grade.

More information in class and in the Spanish GUIA https://www.ehu.eus/es/grado-administracion-direccion-empresas-gipuzkoa

Best of luck and hope you enjoy the course!
FACULTY OF ECONOMICS AND BUSINESS STUDIES

Subject:
Financial Entities Management –Bank Management.

Academic Year:
2018/2019

Course:
4th

First course subject of the following degrees: **BA in Business Administration and Management; BA in Economics; BA in Finance and Insurance**

Department: Financial Economics II
Professors:
Ana Blanco Mendialdua, Ph.D. in Business Administration,
José Manuel Chamorro Gómez, Ph.D. in Business Administration

Course objectives:

The main objective is that students become familiar with banking operations from the point of view of management, taking into account the reality of the financial markets.

The starting point is the definition of the various financial institutions. Later, sources of financing, investment and operations in the financial markets and the proper management of the risks assumed, and final references to the marketing function, are analyzed. It ends giving a global view, studying the different strategic lines followed by credit institutions.

UNITS STRUCTURE:

PART 1. THE BANKING SYSTEM AND ITS ENVIRONMENT
Unit 1. Financial institutions in the current environment

PART 2. BANKING OPERATIVE
Unit 2. Passive Operations
Unit 3. Asset Operations
Subject 4. Nontraditional operations of financial institutions

PART 3. PERFORMANCE AND RISK
Unit 5. Analysis of the financial statements of banks and savings banks
Unit 6. The risk in financial institutions

PART 4. THE ROLE OF MARKETING IN FINANCIAL COMPANIES
Unit 7. The marketing function in financial institutions

Specific competencies of the subject:
1. Outlining the basic concepts of money and financial systems in an economy;
2. Describing the nature of financial instruments, institutions and markets;
3. Describing the role of banks and understand their asset and liability composition
4. Using the methodology applied in making decisions of bank management to achieve efficient use of available resources.
5. To know in depth the banking and financial statements of those entities to optimize their management.
6. Analyze banking risks to learn how to minimize their impact.
7. Applying the knowledge gained to analyze the strategic decisions of financial institutions.

**LEARNING OUTCOMES:**
- Understanding and managing basic concepts associated with the main perspectives of bank management.
- Acquisition-related knowledge and operational skills in banks.
- Resolution of practical cases related to the subject.

**TEACHING METHODOLOGY:**
The proposed methodology for the subject is linked to the objectives and competencies of it, and will combine:
- Lectures given by the professor, who will present the basic concepts, tools and techniques that students should know to achieve the proposed knowledge objectives.
- For each of the topics, the students will have a collection of articles and case studies given by the professor. Most of the cases will be solved and discussed by the students working in groups in class hours devoted to workshops and seminars. Students are expected to study each assigned chapter prior to attending those workshops and seminars. Some cases will be worked individually by students outside class hours.

**ASSESSMENT SYSTEMS:**
The evaluation system is primarily based on a written test. Tests of this course include cases through which it aims to assess the student's ability to apply knowledge acquired during a real or fictional case.

1. **Students who choose the continuous assessment system:**
   First call: The test accounts for 70% of the final grade of the student. 30% of the final grade is based on continuous assessment. The resolution of cases and issues related to the subject in the hours devoted to workshops and seminars will be a 30% of the final grade.
   Note: The score on continuous assessment is stored in the two calls for each course. Only during the academic year. If the student fails or does not show the final exam, the mark of continuous assessment is lost.

2. **Students who do not benefit from continuous assessment system:**
   80% of the note using written test, 10% of the mark by a voluntary oral test, and another 10% from a voluntary task. Both first and second call, access to 100% of the grade. The oral test and the voluntary task are only performed once, keeping the note to the two calls for each course. If the student repeats the course, the next course should retake the oral test and the voluntary task.

**BASIC TEXTBOOK:**

OTHER REFERENCES:

WEBSITES:

- BANK FOR INTERNATIONAL SETTLEMENTS: http://www.bis.org/
- BASELL COMITEE (BIS): http://www.bis.org/bcbs/
- EUROPEAN BANKING AUTHORITY (EBA): http://www.eba.europa.eu/

JOURNALS:

- International journal of Bank marketing: http://www.emeraldgrouppublishing.com/products/journals/journals.htm?id=ijbm
- International Journal of Central Banking: www.ijcb.org
- Journal of Money, Credit and Banking: https://jmbc.osu.edu
• Journal of Money, Investment and Banking: 
  www.journalofmoneyinvestmentandbanking.com
CONSOLIDATION OF FINANCIAL STATEMENTS

The subject has two main objectives. On one hand, work on and understand the concept of Group of Companies and the relations between companies that are developed internally. On the other, learn the accounting obligations generated by the existence of a Group of companies, and the different accounting methods required to comply with these obligations.

DESCRIPTORS:
Analysis of the group of companies and the concept and its definition. Consolidation methods Annual consolidated accounts. SDGs. Social and environmental information

CONTENT:
1º) Combinations of businesses: the group of companies.
2º) Consolidation methods: full consolidation and proportional consolidation.
3º) Procedures for participation.
4º) Consolidated annual accounts
5º) Adaptation of the knowledge of business practices to the SDGs of the United Nations.
6º) Social and environmental information of the company.

Cross-cutting skills to be worked on in the subject:
1. The ability to make reasoned opinions, supported by the data obtained
2. The ability to think analytically and reflect critically
3. The ability to acquire the knowledge acquired to work in any field related to business administration and management.

TOPIC 1: CONSOLIDATED FINANCIAL INFORMATION: METHODS OF CONSOLIDATION AND THE EQUITY METHOD.
1. INTRODUCTION: COMBINATION AND RESTRUCTURING OF BUSINESSES.
2. OBJECT OF CONSOLIDATION AND APPLICABLE THEORIES
3. METHODS OF CONSOLIDATION AND THE EQUITY METHOD
4. PROCESS OF PREPARING CONSOLIDATED INFORMATION

TOPIC 2: ADJUSTMENTS AND ELIMINATION IN THE FULL CONSOLIDATION METHOD (1).
ELIMINATION NET ASSETS INVESTMENT.
1. INTRODUCTION
2. ELIMINATION OF NET ASSET INVESTMENT IN THE FIRST CONSOLIDATION
3. ELIMINATION OF NET ASSET INVESTMENT IN CONSOLIDATIONS AFTER THE FIRST
4. OTHER ELIMINATION OF NET ASSET INVESTMENT

TOPIC 3. ADJUSTMENTS AND ELIMINATION IN THE FULL CONSOLIDATION METHOD (2).
INTERNAL OPERATIONS AND OTHERS.
1. GENERAL PRINCIPLES ON ELIMINATIONS FOR INTERNAL OPERATIONS AND OTHERS
2. ELIMINATION OF RECIPROCAL ITEMS
3. ELIMINATION OF RESULTS FROM OPERATIONS BETWEEN GROUP COMPANIES

TOPIC 4. ADJUSTMENTS AND ELIMINATION IN THE FULL CONSOLIDATION METHOD (3).
ELIMINATION OF NET ASSET INVESTMENT THROUGH VARIATIONS IN PARTICIPATION IN THE SUBSIDIARY COMPANY. INDIRECT PARTICIPATIONS. RECIPROCAL PARTICIPATIONS.
1. INTRODUCTION
3. VARIATIONS IN PARTICIPATION IN THE SUBSIDIARY COMPANY
4. ELIMINATION OF NET ASSET INVESTMENT IN INDIRECT PARTICIPATIONS

TOPIC 5. CONSOLIDATED ANNUAL ACCOUNTS
1. INTRODUCTION
2. CONSOLIDATED BALANCE SHEET
3. CONSOLIDATED PROFIT & LOSS ACCOUNT
4. STATEMENT OF CHANGES IN CONSOLIDATED NET ASSETS
5. STATEMENT OF CONSOLIDATED CASH FLOWS
6. CONSOLIDATED REPORT.

TOPIC 6. COMPULSORY NON-FINANCIAL INFORMATION IN THE ANNUAL ACCOUNTS
7.1. The United Nations Sustainable Development Goals (SDGs)
7.2. Non-financial business information: social and environmental information
7.1. Statement of non-financial information in the consolidated annual accounts
7.3. Other non-compulsory statements: GRI

Lectures: Explanation and analysis of basic concepts and tools and techniques that the student should know to achieve the objectives proposed.
Classroom practical work: Presentation and solving of problems and assumptions to establish the concepts worked on in the lectures.

Written exam, accounting for 70% of the final grade.
Mid-course exams, accounting for 20% plus group work, representing 10% of the final grade. The written exam must be passed to proceed with the sum of the grade obtained in the practical work. Passing the mid-course exams does not mean non-attendance if not presenting oneself for the final written exam.

Final exam: 100% of the grade. The student will have the opportunity to take the exam without having followed continuous assessment, so he/she may opt for 100% of the grade in the final exam.