Digital Finance

Academic Year: (2022 / 2023) **Review date: 29-04-2022**

Department assigned to the subject: Business Administration Department

Coordinating teacher: GUTIERREZ URTIAGA, MARIA

Type: Electives ECTS Credits : 6.0

Year : Semester :

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Students should have taken previous courses on Financial Economics, Financial Systems and Institutions and Economics of Banking.

OBJECTIVES

The aim of this course is to make the student aware of the important changes and challenges that digitalization implies for the well-functioning the entire financial system and the financial function of the economy. To achieve this objective, the student must acquire the knowledge which is detailed in the course¿s program and also some particular set of abilities and attitudes.

The relevant abilities are:
-The ability to solve complex problems.
-The ability to find, communicate and select the relevant information for a particular decision.
-The ability to apply multidisciplinary knowledge to solving a particular problem.
-The ability to work in teams and distribute the workload to deal with complex problems.

In terms of the attitudes, after completing the course, the students should have:
-A critical attitude with respect to the operation of the financial markets enabling them to discover opportunities for wealth creation.
-A collaborative attitude that will allow them to obtain, share and analyse the information and knowledge necessary to perform complex tasks.

DESCRIPTION OF CONTENTS: PROGRAMME

Program
1. Introduction to fin-tech.
2. Crowdfunding.
2.1. The role of finance in the economy.
2.2. The role of financial intermediaries
2.3. Types and functioning of crowdfunding markets.
2.4. Differences between traditional funding models and crowdfunding markets.
2.5. Informational problems in the crowdfunding model.
2.6. The regulatory response: the JOBS act and other regulations.
3. Digitalization of the payment system.
3.1. The historical evolution of the payment system.
3.2. Attributes of a well-functioning payment system.
3.3. Banks as guarantors of the payment system.
3.4. New entrants and new payment models: risks for the banking system.
3.5 Security and taxation issues in new payment systems.
3.6 The regulatory response: PSD2 (Second Payment Services Directive) and the SEPA (Single European Payment Area)
4. Bitcoin and blockchains.
4.1. Introduction: the economic function of currency in the economy.
4.2 Problems with issuer¿s credibility.
4.3. Analysis of bitcoin as currency.
4.4. The blockchain as a registration mechanism.
4.5. The integration of bitcoin and blockchain and issuer¿s incentive problems.
4.6 Possible alternative uses of blockchain technology in the economy and difficulties in its implementation.
4.7. Use of bitcoin in money laundering.
4.8. The regulatory debate.

5 FinTech, big data analytics and new financial business models.
5.1. The use of data in traditional credit decisions.
5.2. The combination of big data and machine learning to improve financing decisions.
5.3. Smart accounts, customized financial products, risk management and fraud prevention.
5.4. High frequency trading: opportunities and risks.
6. Digital security.
6.1. The challenge of ensuring confidentiality.
6.2. The challenge of ensuring integrity.
6.3. The challenge of ensuring availability.
6.4. Digital securities as a new systemic risk in the economy.
6.5. Regulations on cybersecurity.

LEARNING ACTIVITIES AND METHODOLOGY

Teaching methodology will be as follows:

-Each topic or sub topic is presented by the professor in a theory session. After the theory session the students have to study the materials, do complementary readings and work on the relevant practical cases and problem sets. These problem sets and questions from the students are solved in the next practice session. The problem sets have to be solved at home prior to the practice session.
-The course material for each topic (slides that will be used in theory sessions and problem sets to be solved in practice sessions) is provided in advance through the intranet in Aula Global.
-Each teacher has scheduled weekly office hours that the students can use to obtain extra help.

ASSESSMENT SYSTEM

The ongoing evaluation is key for this course, therefore THIS COURSE IS NOT APPROPRIATE FOR STUDENTS WHO MAY HAVE PROBLEMS FOR ATTENDING LECTURES REGULARLY.
Grades will be awarded on the basis of the following criteria:

-Resolution of practical cases and exercises (75%).
-Final exam (25%).
-Extraordinary exam. If a student does not pass the course after the final exam, he will have the right to choose between two extraordinary exams: one with a weight of 25% (the remaining 75% will be accounted for by the work done during the course) and one with a weight of 100% of the final grade.

To pass the course a minimum grade of 4.0 out of 10 must be achieved in both the Final and the Extraordinary exam.

The dates of the Final and Extraordinary exams are known well in advance of the beginning of the course. There will be no changes to these dates to accommodate any personal circumstances, other than the ones stablished by the University regulation (such as coincidence of two exams on the same date). Please take this into account before enrolling in this course.

% end-of-term-examination:	25
% of continuous assessment (assigments, laboratory, practicals…):	75