Course guide
340385 - GEET-I6O32 - Ict Business Management

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Unit in charge: Vilanova i la Geltrú School of Engineering
Teaching unit: 732 - OE - Department of Management.

Degree: BACHELOR'S DEGREE IN INFORMATICS ENGINEERING (Syllabus 2018). (Optional subject).

Academic year: 2023 **ECTS Credits:** 6.0 **Languages:** Catalan

LECTURER

Coordinating lecturer: JASMINA BERBEGAL MIRABENT

Others: JASMINA BERBEGAL MIRABENT - ARIADNA LLORENS GARCÍA

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Transversal:
1. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
5. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
7. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
4. EFFECTIVE USE OF INFORMATI0N RESOURCES - Level 1. Identifying information needs. Using collections, premises and services that are available for designing and executing simple searches that are suited to the topic.

TEACHING METHODOLOGY

Given the eminently practical nature of this course, a combination of different methodologies is proposed, which are intended to enhance the acquisition of the course's objectives as well as to encourage the development of transversal skills. Each of the methodologies are detailed below.

Micro-cases
Micro-cases are case studies that, based on real examples, illustrate the theoretical foundations of the course. In these exercises, students must apply their knowledge, search for information, interpret the situation and analyse it to finally present their conclusions. The development of this cases is structured in three phases:
– Preliminary activity: Preliminary task whose objective is to familiarise the student with the case and depending on the topic to be dealt with, it may consist of answering a questionnaire, searching for information, reading a document, viewing a video, etc.
– Session in the classroom: Presentation of the results of the preliminary activity in front of the class. By confronting and debating opinions it is expected to create a public space for debate and the possibility of resolving any potential doubts students might have.
– Debriefing: At the end of the case, a document must be delivered (within the established deadlines) with the main conclusions and lessons learned from it.
The reference material as well as the specific instructions for each case will be available on ATENEA. Cases studies aim to promote the following capacities:
– Apply the concepts studied to practical cases.
– Face the student with the complexity of real situations and possible points of view, and ask for a synthesis of the most relevant aspects.
– Exchange opinions and debate.
– Present information clearly and concisely.

Project
The course revolves around a project that responds to a real challenge (posed by companies or by the students themselves) to which a solution must be given in groups.
Following the challenge-based learning methodology and based on agile project management methodologies, instructions will be given so that students can develop their project and finish the course with the conceptualisation of an idea that responds to the need raised. The steps to follow will be clearly scheduled, indicating in each session how far to go and the tasks to be carried out for the next session. It is expected that both inside and outside the classroom all the members of the group discuss regularly about the development of the work and that they have the same participation to complete it.
During the face-to-face sessions in the classroom in which students work by groups in their projects, mentoring sessions will take place. The objective is to ensure that the work progresses properly and that timely feedback is given.
Although there will be a continuous evaluation of the project, there are two important milestones in the evaluation: the mid-term presentation and the final defense. In both cases, it will consist of an oral presentation in which all the members of the group must participate. The slides used for this presentation should be uploaded in ATENEA within the established period and following the format and specifications given.
This project aims to act as the backbone of learning and to promote transversal skills such as teamwork, effective oral and written communication, autonomous learning, entrepreneurship, and the reliable use of information resources.

Lectures and in-class activities
The course is complemented by the teacher’s interventions in the format of lectures, in which the master class will be interspersed with examples and problems that will serve to fix the concepts introduced in the exposition. Likewise, group discussions will be encouraged as a strategy to share experiences and advance in the understanding of the contents. The material used during these sessions as well as other complementary material will be available on ATENEA.

LEARNING OBJECTIVES OF THE SUBJECT

Business management is the discipline that studies the relationships between business administration, production processes and the elements of cost, quality, logistics and distribution.
The main objective of this course is to provide students with a vision of the factors that differentiate and characterise companies in the ICT sector. Additionally, the course will analyse the management and business models used by these companies.

In order to achieve these objectives, the theoretical foundations of business management will be deepened together with the role that ICTs play in their operations and how they are integrated into the business model. Likewise, the course also aims to promote entrepreneurial behaviour through a training program that includes examples and cases in a training context in which students are invited to reflect on business decisions.

Therefore, at the end of the course students will be able to:
– Develop the ability to understand the environment in which companies in the ICT sector operate and apply its management principles and techniques.
– Understand and analyse the strategic importance of technology for business success.
– Apply the principles of lean product & process development and its tools to develop new products and services.

STUDY LOAD

Type	Hours	Percentage
Self study	90,0	60.00
Hours small group	15,0	10.00
Hours large group	45,0	30.00

Total learning time: 150 h

CONTENTS

Module 1. LEAN PRODUCT AND PROCESS DEVELOPMENT

Description:
Lean product & process development (LPPD) is an integral system that includes process management, people, leadership techniques and the deployment of responsibility to guarantee the flow of value for the client. LPPD allows companies to take advantage of their full potential and build a sustainable system from the beginning that eliminates waste.

Specific objectives:
Apply the principles of the lean philosophy to develop new products and services, as well as the processes needed to produce and deliver them.

Related activities:
Case The Clinic

Full-or-part-time: 12h
Theory classes: 4h
Laboratory classes: 1h
Self study : 7h

Module 2. THE ICT SECTOR

Description:
The ICT sector is made up of manufacturing and service industries whose main activity is linked to the development, production, marketing and intensive use of information and communication technologies. The transformation that society is undergoing on its way to digitisation forces us to analyse the impact that these changes generate in the economic environment.
This module contextualises the current situation and the evolution of the ICT sector, as well as each of the branches that comprise it. Likewise, the role that ICTs have in the economy will be examined and the main indicators will be studied to measure their level of implementation in the territory. Given that ICT companies do not operate alone but are part of a larger ecosystem, this module will also characterise the most relevant agents and entities in the sector. The module concludes by looking at the competency profile that companies in the sector seek in graduates, and how educational institutions are responding to this demand.

Specific objectives:
– Quantify the weight and significance of ICT in the economy.
– Recognise the main characteristics that make a company be considered ICT and the importance of ICT both in management efficiency and in achieving objectives.
– Identify the agents that make up the ICT ecosystem and how they relate to each other.
– Identify the competency profile demanded by companies in the sector and propose strategies that help higher education institutions to promote them.
– Characterise future trends and emerging technologies that will condition the development of the ICT sector in the upcoming years.

Related activities:
– Technologies for innovation: Analyse two business ideas and identify the technology and type of innovation that they apply.
– Case Theranos: Ambition vs. business ethics

Full-or-part-time: 15h
Theory classes: 5h
Laboratory classes: 1h
Self study : 9h

Module 3. INNOVATION

Description:
Companies carry out their activity in environments with high levels of uncertainty and where social, technological, economic and administrative changes are permanent. This complexity influences how companies interact with their environment. This module will discuss the innovation process, what disruptive innovation is and how to classify different types of innovation.

Specific objectives:
– Characterise the innovative process and establish the innovation strategy of a company.
– Interpret the added value of business projects based on ICT.

Related activities:
– Categories of innovation
– Disruptive innovation: Companies that have revolutionised their sector

Full-or-part-time: 20h
Theory classes: 6h
Laboratory classes: 2h
Self study : 12h

Module 4. IDEA AND BUSINESS MODEL

Description:
The first step to start a business is having an idea. This idea must respond to a demand and therefore, it is necessary to understand the user in all its complexity and dimensions. Therefore, the first step after identifying the idea consists in analysing the value proposition.
Once the fit between the value proposition and users is validated, the design of the business model comes next. A tool that allows representing it in a visual and synthesised way is the business model canvas, designed by Alex Osterwalder and Yves Pigneur in 2008. This model is divided into 9 areas or core blocks that represent the key aspects of a company and that must be clear when develoing a business idea.
Using the LPPD and the business model canvas, in this module a business proposal will be devised and developed.

Specific objectives:
– Design and evaluate business initiatives in the ICT sector.
– Identify alternative models of knowledge and innovation management as well as their incorporation into the business model and the core blocks that characterise it.
– Develop a business model proposal using the LPPD methodology and its tools (persona, value proposition canvas, business model canvas, SIPOC, value stream map, etc.)
– Present the business proposal in front of a committee.

Related activities:
Project: Develop a business idea

Full-or-part-time: 103h
Theory classes: 30h
Laboratory classes: 11h
Self study : 62h

GRADING SYSTEM

The final grade for the course is determined by:
– Project (40%): Compendium of deliveries related to the development of the project and its monitoring in the classroom.
– Presentations (15%): 5% of the grade corresponds to the mid-term presentation, and the remaining 10% is the final presentation at the end of the course. All team members must participate in the oral presentations. The grade will be individual.
– Micro-cases (10%): All micro-case will be averaged and contribute with the same weight in this percentage.
– Exam (35%): Individual exercise in which there will be both theoretical questions and application and reflection problems that will refer to the cases discussed throughout the course.
For group activities, the grade will be the same for all members of the team members unless irresponsible behaviours are detected, in which case students would be evaluated separately.

Taking into account the above elements, the final grade for the course is expressed as follows:
Final Grade = 0.40×Project + 0.15×Presentations + 0.10×Micro-cases + 0.35×Exam

In case of not passing the course in the first call, for the re-evaluation students will only be able to improve the exam grade and the micro-cases (45% of the grade) through a re-evaluation exam.

BIBLIOGRAPHY

Basic:
- Chesbrough, Henry William. Open innovation : the new imperative for creating and profiting from technology. Boston, Massachusetts: Harvard Business School Press, 2003. ISBN 9781422102831.
- Ward, Allen C. ; Sobek II, Durward K. Lean product and process development. 2nd ed. Cambridge, MA, USA: Lean Enterprise Institute, 2014. ISBN 9781934109434.
- Morgan, James M.; Liker, Jeffrey K. The Toyota product development system : integrating people, process, and technology [on line]. Boca Raton, FL: CRC Press, Taylor & Francis Group, 2019 [Consultation: 20/02/2024]. Available on: https://www-taylorfrancis-com.recursos.biblioteca.upc.edu/books/mono/10.4324/9781482293746/toyota-product-development-system-james-morgan-jeffrey-liker. ISBN 9780367805159.
- Osterwalder, Alexander; Pigneur, Yves; Clark, Tim. Business model generation [Recurs electrònic] : a handbook for visionaries, game changers, and challengers [on line]. Hoboken, New Jersey: John Wiley & Sons, cop. 2010 [Consultation: 14/02/2024]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=581476. ISBN 9780470876411.
- Ries, Eric. The Lean startup : how today's entrepreneurs use continuous innovation to create radically successful businesses [on line]. New York: Crown Business, 2011 [Consultation: 07/02/2023]. Available on: https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=nlebk&AN=733896&site=ehost-live&ebv=EK&ppid=Page-__-1. ISBN 9780307887894.

Complementary:
- Spirou, Costas. Anchoring innovation districts : the entrepreneurial university and urban change [on line]. Baltimore: Johns Hopkins University Press, 2021 [Consultation: 13/02/2024]. Available on: https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=6609514. ISBN 1421440601.

RESOURCES

Other resources:
Scientific articles:
- Balocco, R.; Cavallo, A.; Ghezzi, A.; Berbegal-Mirabent, J. (2019). Lean business model change process for digital entrepreneurship. Business Process Management Journal, 25(7): 1520-1542. https://www.emerald.com/insight/content/doi/10.1108/BPMJ-07-2018-0194/full/html />- Trimi, S.; Berbegal-Mirabent, J. (2012). Business model innovation in entrepreneurship. International Entrepreneurship and Management Journal, 8(4): 449-465. https://link.springer.com/article/10.1007/s11365-012-0234-3 />- Zott, C.; Amit, R.; Massa, L. (2011). The business model: Recent developments and future research. Journal of Management, 37(4): 1019-1042. https://journals.sagepub.com/doi/abs/10.1177/0149206311406265?journalCode=joma />
Relevant websites:
- Agència per la Competitivitat de l'Empresa (ACCIÓ): https://www.accio.gencat.cat/ca/sectors/tic/ />- Associació d'Empreses d'Informàtica i Tecnologies de la Comunicació de Catalunya (ASEITEC): https://www.aseitec.org/ />- Centre Tecnològic de Catalunya: https://www.ctecno.cat/ />- Confederación Española de Empresas de Tecnologías de la Información, Comunicación y Electrónica (CONETIC): https://conetic.info/ />- EU Science Hub: https://ec.europa.eu/jrc/en/science-area/information-society />- Observatorio Nacional de las Telecomunicaciones y de la Sociedad de la Información. (2019). Informe Anual del Sector TIC y de los Contenidos en España 2019. Madrid: ONTSI. http://doi.org/10.30923/SecTICCont2019 />- The lean startup: http://theleanstartup.com/ />