



## Course guides

# 230813 - PETIC - ICT Entrepreneurship Project

**Last modified:** 01/02/2016

**Unit in charge:** Barcelona School of Telecommunications Engineering  
**Teaching unit:** 732 - OE - Department of Management.  
739 - TSC - Department of Signal Theory and Communications.

**Degree:** BACHELOR'S DEGREE IN TELECOMMUNICATIONS SCIENCE AND TECHNOLOGY (Syllabus 2010). (Optional subject).  
BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).  
BACHELOR'S DEGREE IN ELECTRONIC SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).  
BACHELOR'S DEGREE IN TELECOMMUNICATIONS SYSTEMS ENGINEERING (Syllabus 2010). (Optional subject).  
BACHELOR'S DEGREE IN NETWORK ENGINEERING (Syllabus 2010). (Optional subject).  
BACHELOR'S DEGREE IN TELECOMMUNICATIONS TECHNOLOGIES AND SERVICES ENGINEERING (Syllabus 2015). (Optional subject).

**Academic year:** 2015    **ECTS Credits:** 6.0    **Languages:** Catalan, English, Spanish

### LECTURER

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**Coordinating lecturer:** Rafael Valle Alarcón

**Others:**

### PRIOR SKILLS

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Economia@Management

### REQUIREMENTS

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Economia@Management

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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**Generical:**

09 CSCT N3. ABILITY TO CONCEIVE, DESIGN, IMPLEMENT AND OPERATE COMPLEX ICT SYSTEMS. Level 3. To identify market needs and opportunities. To collect information to prepare specifications for a new product, process or service. To prepare a basic business plan. To conceive a new product, process or service. To develop and implement planning of a design process. To carry out the various phases of the design process.

**Transversal:**

01 EIN N3. ENTREPRENEURSHIP AND INNOVATION - Level 3. Using knowledge and strategic skills to set up and manage projects. Applying systemic solutions to complex problems. Devising and managing innovation in organizations.  
04 COE N3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.

## TEACHING METHODOLOGY

**Pedagogy:** Experiential Learning, Flipped Classroom and working teams

The ICT Entrepreneurship Project is a hands-on program that immerses the 4 student teams by having them test their business model hypotheses outside the classroom. Inside the classroom, it deliberately trades off lecture time for student/teaching team interaction. The ICT Entrepreneurship Project uses the Eric Blank Customer Development Process and the Alex Osterwilder Business Model Canvas to collapse the infinite possibilities of a startup into a set of solvable problems. This class uses experiential learning as the paradigm for engaging the participants in discovery and hypotheses testing of their business models. From the first day of class, teams get out of the classroom and learn by doing. Experiential learning has been around forever. That's the core idea behind the structure of this class.

**The Flipped Classroom**

The class is run using a "flipped classroom" Instead of lecturing about the basics during class time, the teacher assigns the core lectures as homework. Steve Blank has recorded eight 30- minute class lectures, each with quizzes. Students watch a lecture on each component of the Business Model Canvas, take a short quiz, and come to class prepared with questions about the topic. Students will use that new knowledge to test that specific part of the business model. These lectures are available in the platform Udacity.

**Team Projects**

The classes it's team-based. The students are working in 4 people teams on a project proposed by themselves. Work teams will be formed during the first two weeks. Team projects can be a product or service of any kind. This can include software, physical products, and Web-based services. For many students, their first instinct may be a Web-based or mobile app startup. We suggest that they consider a subject they are a domain expert in, such as something related to their personal interests or academic research. In all cases, they should choose something for which they have passion, enthusiasm, and hopefully some expertise.

This course is a simulation of what startups and entrepreneurship are like in the real world, including chaos, uncertainty, impossible deadlines in insufficient time, and conflicting input. We want them to understand that the class requires a phenomenal amount of work by students, especially compared to most other classes. Projects are treated as real startups, so the workload will be intense.

## LEARNING OBJECTIVES OF THE SUBJECT

This course is based on: "The Lean LaunchPad" classes at Stanford University by Steve Blank. The goal of the Lean LaunchPad is to impart an evidence-based methodology for scalable startups that students can use for the rest of their careers. The theme of the course is: "What to do to turn ideas into real business and attract investors"

The aim of this course is: Students should experiment on their own Projects and develop a Business Model fitted to a Value Proposition validated in the market. This Business Model should show traction to potential investors. This means that the Project has viability, it is feasible and fundable. To accomplish this goal the students:

1. Will attend the E245 Steve Blank course taught at Stanford and Berkeley Universities, adapted to teaching degree in ETSETB.
2. Will know the Barcelona entrepreneurial ecosystem, through visits, workshops and guest lectures.
3. They will build a Minimum Viable Product (MVP) to experiment, measure and learn. The MVP of this course will be a "Landing Page".
4. They will make a 2' video and a 10' Elevator Pitch, where they will show that their projects has viability, it is feasible and fundable.
5. In the classes and workshops, students must learn and apply in their projects teachings from Steve Blank, Eric Ries, Alex Osterwilder, Ash Maurya, Brant Cooper, Alistair Croll, Cindy Alvarez, John Mullins, Dave McClure and Sean Ellis. And here in Spain teachings from entrepreneurs and Business Angels such as Nestor Guerra, Carlos Blanco and Luis Martin Cabiedes.
6. Will work with Experimental Learning, Flipped Classroom and Teamwork.

The fundamental principles of the course are:

1. There are no facts inside your lab, class or building, so get the heck outside. (Which generally means "get off the campus" and stop talking to just your friends.)
2. Your idea/invention is not a company, it's one of the nine building blocks of the Business Model Canvas.
3. We use the Business Model Canvas to articulate our hypotheses.
4. We use Customer Development to test those hypotheses.
5. We use the Business Model Canvas to keep track of what we learned.
6. We use Agile Development to build our Minimal Viable Products so we can test our hypotheses.
7. We expect that many of our initial hypotheses are wrong.
8. Iterations and pivots are the expectation.

Students have to do an MVP (Minimum Viable Product) and one "Landing Page" to test metrics and A / B testing. And go out and interview, adjust and pivot potential users.

The PETIC course, Syllabus: PETIC training is based on three items:

1. The experimental E-245 course from Steve Blank, Udacity available.
2. Workshops to complement the ETSETB profile student's training.
3. Guest lectures of successful entrepreneurs and Business Angels to help to discover the entrepreneurial ecosystem in Barcelona.

## STUDY LOAD

Type	Hours	Percentage
Self study	98	65.33
Hours large group	52	34.67

**Total learning time:** 150 h

## CONTENTS

### Formative Sessions

**Description:**

It will provide students with the necessary skills for carrying out a project of entrepreneurship in the ICT environment .PETIC program comprises 10 subjects: (4 ECTS)1. Briefing, team formation and entrepreneurship ecosystem.2. Introduction, Business Models and Customer Development.3. Value Proposition.4. Customer Segments.5. Distribution Channels.6. Customers Relationship, (Get/ Keep/ Growth).7. Revenue Streams.8. Key Activities.9. Resources and Costs.10. Lessons learned and Presentations.

**Full-or-part-time:** 102 h

Theory classes: 34h

Self study : 68h

### Workshops

**Description:**

Eight Workshops will be available for the students. Each student will attend two. The four team members must attend the eight workshops. The Workshops are:1. Metrics that Matter.2. Fundraising and Bootstrapping.3. Blue Ocean strategies.4. Visual Thinking and Storytelling.5. Growth Hacking.6. Talking to Humans.7. Digital Marketing.8. Elevator Pitch Skills training.The methodology is the same as normal classes: Experimental Learning and Flipped Classroom. 1.5 ECTS is the estimated workload of the 2 Workshops.

**Full-or-part-time:** 36 h

Theory classes: 12h

Self study : 24h

### Guest Lectures

**Description:**

Guest Lectures of successful entrepreneurs and Business Angels to discover the entrepreneurial ecosystem in Barcelona. The guest lectures can be in person, by video or videoconference (0.5 ECTS).Formation is complemented discovering the entrepreneurial ecosystem in Barcelona, Catalonia and Spain:1. Knowing Incubators, Accelerators, Business Angels, Competitions and Coworkings.2. Discovering Public Administrations actions: Acció, Generalitat de Catalunya. Barcelona Activa, Ajuntament de Barcelona.3. Participating in entrepreneurship ?meetups? at Barcelona. (Lectures, training, networking).4. Attending one course in Barcelona Activa.5. Finding Public funding aids applicable to the project: Enisa, participating loans. ICO, investment funds: ICO-Global for incubation.

**Full-or-part-time:** 12 h

Theory classes: 6h

Guided activities: 6h

## GRADING SYSTEM

15% for individual participation  
40% for Out-of-the-building Customer Discovery progress  
20% Team weekly presentation  
25% Team final presentation

## BIBLIOGRAPHY

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### Basic:

- Ries, Eric; San Julián Arrupe, F. Javier. El Método Lean Startup : cómo crear empresas de éxito utilizando la innovación continua. Barcelona: Deusto, 2012. ISBN 9788423409495.
- Blank, Steven G; Dorf, Bob. El Manual del emprendedor : la guía paso a paso para crear una gran empresa. Barcelona: Gestión 2000, 2013. ISBN 9788498752830.
- Osterwalder, Alexander; Pigneur, Yves; Clark, Tim. Generación de modelos de negocio : un manual para visionarios, revolucionarios y retadores. Barcelona: Deusto : [Centro de Libros PAPP], 2011. ISBN 9788423427994.
- Osterwalder, Alexander. Diseñando la propuesta de valor : cómo crear los productos y servicios que tus clientes están esperando. Barcelona: Deusto, cop. 2015. ISBN 9788423419517.

### Complementary:

- Hoyos Iruarizaga, Jon; Saiz Santos, María. Business Angels : los mecenas del ecosistema emprendedor. Madrid: Esic-Editorial, 2014. ISBN 9788473561525.
- Alvarez, Cindy. Desarrollo de clientes LEAN : cómo crear los productos que tus clientes comprarán. Logroño: Universidad Internacional de La Rioja, 2015. ISBN 9788416125807.
- Cooper, Brant; Vlaskovits, Patrick. El emprendedor LEAN : cómo los visionarios crean nuevos productos, desarrollan proyectos innovadores y transforman los mercados. Logroño: Universidad Internacional de La Rioja, 2014. ISBN 9788415626985.
- Croll, Alistair; Yoskovitz, Benjamin. LEAN Analytics : cómo utilizar los datos para crear más rápido una startup mejor. Logroño: Universidad Internacional de La Rioja, 2014. ISBN 9788416125241.
- Kim, W. Chan; Mauborgne, Renée. La Estrategia del océano azul : cómo crear en el mercado espacios no disputados en los que la competencia sea irrelevante. Barcelona: Profit Editorial, 2015. ISBN 9788416115891.
- Manzanera, Antonio. Finanzas para emprendedores : todo lo que necesitas saber para encontrar financiación y convertir tu idea en negocio. 1a ed. en colección Booket. Barcelona: Deusto, 2013. ISBN 9788423414512.
- Cabiedes, Luis Martín. ¿Tienes una startup? : todas las claves para conseguir una financiación. [Barcelona]: Gestión 2000, 2015. ISBN 9788498754070.
- Blank, Steven G. Holding a cat by the tail. [Pescadero, Calif.]: K&S Ranch, Inc, 2014. ISBN 0989200558.
- Mullins, John W. The Customer-funded business : start, finance or grow your company with your customers' cash. Hoboken, NJ: John Wiley & Sons, 2014. ISBN 9781118878859.
- Aulet, Bill. La Disciplina de emprender : 24 pasos para lanzar una startup exitosa. 2a ed. Madrid: LID, 2015. ISBN 9788483564066.
- Maurya, Ash. Running lean : cómo iterar de un plan A a un plan que funciona. Logroño: Universidad Internacional de La Rioja, 2014. ISBN 9788416125173.
- Cajina, Gregory. Rompe con tu zona de confort : 52 propuestas para tomar las riendas de tu vida. Barcelona: Oniro, 2013. ISBN 9788497546577.
- Blanco, Carlos. Los Principales errores de los emprendedores : todo lo que no debes hacer a la hora de montar tu empresa. Barcelona: Gestión 2000, 2013. ISBN 9788498753042.