# 300314 - ITAM - Introducció a la Gestió d'Actius Tecnològics

**Unitat responsable:** 300 - EETAC - Escola d'Enginyeria de Telecomunicació i Aeroespacial de Castelldefels  
**Unitat que imparteix:** 739 - TSC - Departament de Teoria del Senyal i Comunicacions  
**Curs:** 2016  
**Titulació:**  
- GRAU EN ENGINYERIA D'AERONAVEGACIÓ (Pla 2010). (Unitat docent Optativa)  
- GRAU EN ENGINYERIA D'AEROPORTS (Pla 2010). (Unitat docent Optativa)  
- GRAU EN ENGINYERIA DE SISTEMES AEROESPACIALS (Pla 2015). (Unitat docent Optativa)  
- GRAU EN ENGINYERIA DE SISTEMES AEROESPACIALS/GRAU EN ENGINYERIA DE SISTEMES DE TELECOMUNICACIÓ (Pla 2015). (Unitat docent Optativa)  
- GRAU EN ENGINYERIA TELEMÀTICA (Pla 2009). (Unitat docent Optativa)  
- GRAU EN ENGINYERIA DE SISTEMES AEROESPACIALS/GRAU EN ENGINYERIA TELEMÀTICA (Pla 2015). (Unitat docent Optativa)  
- GRAU EN ENGINYERIA DE SISTEMES DE TELECOMUNICACIÓ (Pla 2009). (Unitat docent Optativa)  
**Crèdits ECTS:** 3  
**Idiomes docència:** Anglès

**Professorat**

**Responsable:** Puente Baliarda, Carles

**Capacitats prèvies**

General Knowledge in Engineering and Physics

**Requisits**

General Knowledge in Engineering and Physics

**Metodologies docents**

Lectures, Homework and one Project

**Objectius d’aprenentatge de l’assignatura**

To introduce engineers and scientists into the management of technology assets, research and engineering teams. To understand the basic rules of the international patent system and to learn how to patent claims to secure and monetize the technology value of a corporation. To learn the basic technology and patent licensing models and the related business trade-offs. To develop the basic skills to plan and manage a technology and product roadmap, understanding the role of a technology department in a small or large corporation and its fit and interaction with other departments and government bodies within the organization. To review several strategies on how to introduce an innovation into the market, from the traditional product development cycle to a pure intellectual property licensing model.
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Última modificació: 07-02-2017
**Introduction to Technology Asset Management**

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**Descripció:**
Part-I ? Background, Basic Knowledge and Skills

Technology Based Companies and a Knowledge Based Economy - What is a technology based company? The technology and the team as key assets of the corporation. Structure and organization of a technology based company. Examples of technology companies in the telecommunications/electronics industry (Qualcomm, ARM, Intel, Thomson, Rambus, Tessera, InterDigital, IBM, Immersion, WiLAN). Overview of Intellectual Property (IP) protection. The patent system worldwide: why patenting?

Project Oriented Management - The project as a business and engineering management tool. The project steering committee. The project leader and the project team. Project management tools: project definition, project planning, budget and resources planning and tracking, tracking tools (action item list, meeting minutes, reporting), closing meetings. Project planning examples with Microsoft Project.

Part-II ? Introduction to Patent Management


Licensing agreements - Dimensions of a licensing agreement: defining your IP product. Exclusivity. Rights to Sublicensing. Reservation of Rights. Term and termination. Royalties and other considerations. Prosecution and

**Activitats vinculades:**
Weekly Assignments (2h/week) - At the end of the week (6 out of 10 weeks), students will have to work on an assignment for the following week. Completing and delivering the exercises will be mandatory. Completion of work will be checked, and a few randomly selected assignments will be graded each week. Weekly assignments will be based on:

- Read and comment the patent of the week?
- Read selected material from reference books and papers.
- Quest on the content of the week sessions and material.
- Exercises based on the week sessions.

Course Project #1 (20h in 4 weeks)? Patent Drafting & Innovation: The paper airplane competition? Every student is invited to prepare a paper airplane in class and compete for the longest flight-time airplane. Then students are arranged in teams of two/three, and a time period for improving the plane and filing a provisional patent on the invention (including drawings and claims) is proposed. Entire prior-art will be defined by the professor. ?First to file? system is proposed. The winners are those who get to own an intellectual property right on the ?best flying airplane? (to be defined). The winning teams get 4 extra points in the final exam. (Teamwork)

**Objectius específics:**

1. To make engineers and scientists conscious on the potential value of a technology asset beyond its use in a traditional product development program.
2. To provide engineers and scientists with some basic tools and insights in the art of technology management.
3. To get engineers and scientists confident and familiar in managing patent information.
4. To get engineers and scientists understand the purpose of patenting and to provide them an insight on how to make an effective use of patents in a business context.
5. To get engineers and scientist familiar in the reading and wording of patent documents and interpreting its basic scope of protection.
6. To help engineers and scientists in protecting through patents broad technology concepts rather than narrow product lines.
7. To provide engineers and scientists with the tools to budget and monitor a patent portfolio and help in making a strategic plan for a patent asset development.
8. To provide engineers and scientists with the basic concepts on technology and patent licensing.
9. To provide engineers and scientists with a perspective on how to set up a technology and IP group inside a company whether a start-up or a large corporation.
10. To train engineers and scientists in the reading of technical documents (patents) in different fields where the student is not necessarily an expert.
**Descripció:**

- **Session #1.** - Introducción a la Gestió d'Actius Tecnològics. ¿Qué es una empresa de tecnología? Un modelo de negocios basado en tecnología e IP. Resumen del curso TAM. Objetivos de TAM. ¿Quién debería tomar TAM? ¿Por qué TAM: carreras relacionadas con la tecnología e IP.
- **Session #2.** - Economía de la Propiedad Intelectual (IP). Resumen de protección de la IP: patentes, marcas, derechos de autor, diseños industriales, circuitos integrados. El sistema de patentes mundial: solicitaciones nacionales y reglas, convenio de cooperación en materia de patentes. Fuentes de información relacionadas con la IP (websites, oficinas de patentes y marcas, asociaciones).
- **Session #5.** - Planificación de proyectos con Microsoft Project II. Recursos de tareas y asignación. Evaluación de la carga de trabajo y redistribución de tareas. Costes y presupuestos. Control de costes. Ejemplo. Proyecto #1: planificación de proyecto.
- **Session #6.** - Tecnología y Innovación del Producto - La carretera de la tecnología. La carretera del producto. El programa de I+D. El funicular del proyecto. Ciclo de desarrollo del producto y pipeline de desarrollo del producto.
- **Session #7.** - Presentación de la Patente (I) - ¿Qué es una patente? ¿Por qué patentar? Introducción a la presentación de patentes. La patente como un documento técnico. La patente como un documento legal. La patente como un derecho negativo. El sitio web de la WIPO, EPO y USPTO. Estructura de una patente y documento de solicitud de patente. Códigos INID. Inventores y Asignados. Presentación, fecha de presentación, fecha de publicación y fecha de otorgamiento. Números de patente y patente de solicitud. Búsqueda en bases de patentes. Requisitos generales de patentabilidad. Estructura de un documento de patente. Ejemplos.
- **Session #8.** - Presentación de la Patente (II) - Estructura de un documento de patente. Patent specification: background, summary of the invention, description of the preferred embodiments/best mode, list of figures, drawings and claims. Claim structure: limiting features and scope of protection.
- **Session #9.** - Introducción a la Ingeniería de Patentes (I) - Structure of a patent document. Patent specification: background, summary of the invention, description of the preferred embodiments/best mode, list of figures, drawings and claims. Claim structure: limiting features and scope of protection.
- **Session #10.** - Introducción a la Ingeniería de Patentes (II) - Limiting features and novelty. Independent and dependent claims. Claim hierarchy and protection level graphs. The onion layer structure. Multidependency. Examples.
- **Session #11.** - Introducción a la Ingeniería de Patentes (III) - Introduction to Claim drafting - Independent claims in the EPO and in the US. Structure of a claim: preamble, limiting features and the two-part form. Basic and special types of claims (Markush, means plus function, product by process, ..). Limiting words: ?comprising?, ?including vs. ?consisting of?. Support according to EPO and USPTO rules. Independent and dependent claims: scope and validity. Claims as the skeleton of a patent specification. Examples.
- **Session #12.** - Introducción a la Ingeniería de Patentes (IV) - ...
Weekly Assignments (2h/week) - At the end of the week (6 out of 10 weeks), students will have to work on an assignment for the following week. Completing and delivering the exercises will be mandatory. Completion of work will be checked, and a few randomly selected assignments will be graded each week. Weekly assignments will be based on:

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Sistema de qualificació

? 40% Patent Drafting & Innovation (paper airplane project)
 o Winners (teams with exclusion rights) get 4 extra bonus points in final exam.
 o Best airplane builders get 2 extra bonus points in final exam.
 o Delivering all assignments and projects and obtaining at least 4/10 points in the final exam is a condition for the bonus to accrue.
? 30% Weekly Assignments
? 30% Final Exam
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Bibliografia

Altres recursos:

1. D. Mock, ?The Qualcomm Equation?, AMACOM, New York, 2005