ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

103000843 - Introduction To Technology Watch And Competitive Intelligence

DEGREE PROGRAMME

10AZ - Master Universitario En Innovación Digital

ACADEMIC YEAR & SEMESTER

2021/22 - Semester 2

Index

Learning guide

1. Description

1.1. Subject details

Name of the subject	103000843 - Introduction To Technology Watch And Competitive Intelligence
No of credits	1 ECTS
Type	Compulsory
Academic year ot the programme	First year
Semester of tuition	Semester 2
Tuition period	February-June
Tuition languages	English
Degree programme	10AZ - Master Universitario en Innovación Digital
Centre	10 - Escuela Tecnica Superior De Ingenieros Informaticos
Academic year	2021-22

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Alberto Tejero Lopez (Subject coordinator)	Office D5215	alberto.tejero@upm.es	Tu - 11:00 - 13:00

* The tutoring schedule is indicative and subject to possible changes. Please check tutoring times with the faculty member in charge.

3. Skills and learning outcomes *

3.1. Skills to be learned

CB07 - Que los estudiantes sepan aplicar los conocimientos adquiridos y su capacidad de resolución de problemas en entornos nuevos o poco conocidos dentro de contextos más amplios (o multidisciplinares) relacionados con su área de estudio

CB08 - Que los estudiantes sean capaces de integrar conocimientos y enfrentarse a la complejidad de formular juicios a partir de una información que, siendo incompleta o limitada, incluya reflexiones sobre las responsabilidades sociales y éticas vinculadas a la aplicación de sus conocimientos y juicios

CB09 - Que los estudiantes sepan comunicar sus conclusiones y los conocimientos y razones últimas que las sustentan a públicos especializados y no especializados de un modo claro y sin ambigüedades

CE-EIT03 - Capacidad para identificar el nivel de madurez de una tecnología y desarrollar e interpretar un roadmap tecnológico seleccionando la mejor manera de proteger esa tecnología dependiendo de su tipo, nivel de madurez y las restricciones geográficas, y entendiendo las consecuencias de acceder a ella y comercializarla.

CG01 - Que los estudiantes sean capaces de predecir y controlar la evolución de situaciones complejas mediante el desarrollo de nuevas e innovadoras metodologías de trabajo adaptadas al ámbito científico/investigador, tecnológico o profesional concreto, en general multidisciplinar, en el que se desarrolle su actividad.

CG03 - La capacidad de usar la lengua inglesa de manera competente, es decir, con capacitación para tareas complejas de trabajo y estudio.

CG07 - Capacidad de trabajar y comunicarse también en contextos internacionales.

CG08 - La capacidad de traducir innovaciones en soluciones comerciales factibles.

CG09 - La capacidad de transformar las experiencias prácticas en problemas y desafíos de investigación.

3.2. Learning outcomes

RA104 - - In depth understanding the basics of technology watch and transfer

* The Learning Guides should reflect the Skills and Learning Outcomes in the same way as indicated in the Degree Verification Memory. For this reason, they have not been translated into English and appear in Spanish.

4. Brief description of the subject and syllabus

4.1. Brief description of the subject

To provide students with some conceptual and practical tools to understand the possible evolution of technologies for specific purposes. To know how develop and interpret a technology roadmap in specific technical areas. To understand the relationship of technology intelligence to decision making in innovation management.

4.2. Syllabus

1. Welcome session
   1.1. Contents, grading processes and groups creation
2. Technology watch basics
   2.1. Technology watch basic concepts, procedure and tools
3. Definition of the technology watch purpose
   3.1. Definition of the purpose and identification of application points
4. TW Report - Critical watch factors
   4.1. Introduction to the technology watch report and identification of critical watch factors
5. TW Report - Scientific-technological information
   5.1. Identification and analysis of scientific-technological sources of information
6. TW Report - Market and industry information
   6.1. Identification and analysis of market and industrial sources of information
7. TW Report - Analysis of information
   7.1. Analysis of the information gathered and drawing conclusions to complete the TW report

5. Schedule

5.1. Subject schedule*

Week	Face-to-face classroom activities	Face-to-face laboratory activities	Distant / On-line	Assessment activities
1	**Welcome session and groups creation** Duration: 01:00			
2	**Technology watch basics** Duration: 01:00			
3	**Definition of the technology watch purpose** Duration: 01:00			
4	**TW Report - Critical watch factors** Duration: 01:00			
5	**TW Report - Scientific-technological information** Duration: 01:00			
6	**TW Report - Market and industry information** Duration: 01:00			
7	**TW Report - Analysis of information** Duration: 01:00			
8				**Individual exam** Continuous assessment Presential Duration: 01:00
9				**GROUP PRESENTATIONS (1st day)** Continuous assessment Presential Duration: 01:00
10				**GROUP PRESENTATIONS (2nd day)** Continuous assessment Presential Duration: 01:00
11				
12				

13				
14				
15				
16				
17				**FINAL EXAM** Final examination Presential Duration: 02:00

Depending on the programme study plan, total values will be calculated according to the ECTS credit unit as 26/27 hours of student face-to-face contact and independent study time.

* The schedule is based on an a priori planning of the subject; it might be modified during the academic year, especially considering the COVID19 evolution.

6. Activities and assessment criteria

6.1. Assessment activities

6.1.1. Continuous assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
8	Individual exam		Face-to-face	01:00	30%	5 / 10	CB07 CE-EIT03 CG08 CG09 CG03 CB08
9	GROUP PRESENTATIONS (1st day)		Face-to-face	01:00	35%	5 / 10	CB09 CB07 CE-EIT03 CG07 CG08 CG09 CG01 CG03 CB08
10	GROUP PRESENTATIONS (2nd day)		Face-to-face	01:00	35%	5 / 10	CB09 CB07 CE-EIT03 CG07 CG08 CG09 CG01 CG03 CB08

6.1.2. Final examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
17	FINAL EXAM		Face-to-face	02:00	100%	5 / 10	CB09 CB07 CE-EIT03 CG07 CG08 CG09 CG01 CG03 CB08

6.1.3. Referred (re-sit) examination

No se ha definido la evaluación extraordinaria.

6.2. Assessment criteria

The evaluation of the students will be based on two main sources:

? Individual quiz (30%)

? Group work (70%): activities during lectures (classroom interactivity, development and final presentations, etc.)

7. Teaching resources

7.1. Teaching resources for the subject

Name	Type	Notes
1. COTEC (1999). Pautas Metodológicas en Gestión de la Tecnología y de la Innovación para Empresas TEMAGUIDE. Madrid: Fundación COTEC para la Innovación Tecnológica.	Bibliography	
2. Georghiou, L., Cassingena, H., Keenan, M., Miles, I. Popper, R. (2008). ?The Handbook of technology foresight. Concepts and practice?. PRIME Series on Research and Innovation Policy, Edward Edgar Publishing Ltd.	Bibliography	
3. Gestión de la I+D+i: Sistema de vigilancia tecnológica e inteligencia competitiva. UNE 166006:2011	Bibliography	

4. Miles, I. ?From futures to foresight? in (Georghiouet al., 2008). ?The Handbook of technology foresight. Concepts and practice?.	Bibliography	
5. Moehrle, M., Isenmann, R. Phaal, R. (Edts.) (2013). ?Technology roadmapping for strategy and innovation: charting the route to success?. Springer.	Bibliography	
6. Ramona-Mihaela MATEI, Ioan RADU. Conceptual Relationship between Information and Communication Technologies and Competitive Intelligence Activities	Bibliography	
7. René Rohrbeck: Harnessing a Network of Experts for Competitive Advantage: Technology Scouting in the ICT Industry. R&D Management, Vol. 40, No. 2 pp. 169-180 http://www3.interscience.wiley.com/journal/123275929/abstract	Bibliography	
8. Tejero, A. and León, G. (2017). Plataformas cognitivas de inteligencia tecnológica como herramienta de apoyo a la inteligencia competitiva de las pymes de base tecnológica. Economía industrial, (406), 123-136.	Bibliography	
? Slides used in the lectures ? On-line material ? Selected recorded interviews with technology-based entrepreneurs ? Selected recorded interviews with business angels ? References of some case studies	Others	Available on EIT Digital Moodle e-learning platform during the course.

8. Other information

8.1. Other information about the subject

In this subject, the United Nations SDG7.Affordable and clean energy, SDG9.Industry, innovation and infrastructure, SDG12.Responsible consumption and production and SDG13.Climate action are worked through the group projects.