

Course guide

220310 - 220310 - Aerospace Project Management

Last modified: 02/04/2024

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 758 - EPC - Department of Project and Construction Engineering.

Degree: MASTER'S DEGREE IN AERONAUTICAL ENGINEERING (Syllabus 2014). (Compulsory subject).

Academic year: 2024 **ECTS Credits:** 5.0 **Languages:** English

LECTURER

Coordinating lecturer: DANIEL GARCIA ALMIÑANA

Others: DANIEL GARCIA-ALMIÑANA
PIERRE HUGUENET
PAU NUALART
JOAN CARLES FERNANDEZ
LAURA DIEZ MERINO

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

CG03-MUEA. (ENG) Capacitat per a la direcció general i la direcció tècnica de projectes de recerca, desenvolupament i innovació, en empreses i centres tecnològics aeronàutics i espacials.

CG10-MUEA. (ENG) Coneixement, comprensió i capacitat per aplicar la legislació necessària en l'exercici de la professió d'Enginyer Aeronàutic.

TEACHING METHODOLOGY

- THEORY SESSIONS - THE FUNDAMENTALS OF PROJECT MANAGEMENT
- THEORY SESSIONS - PROJECT MANAGEMENT TOOLS (PMBOK)
- THEORY SESSIONS - CASE STUDIES (individual solution and group discussion using e-tools)
- PRACTICAL SESSIONS - GROUP DELIVERABLES
- PRACTICAL SESSIONS - REAL H2020 PROPOSAL
- FINAL PRESENTATION - GROUP PROJECT
- AUTONOMOUS WORK

LEARNING OBJECTIVES OF THE SUBJECT

- UNDERSTAND PROJECT MANAGEMENT AS A METHODOLOGY TO INCREASE THE SUCCESS RATIOS OF PROJECTS.
- UNDERSTAND THE FUNDAMENTALS OF THE TEN PROJECT MANAGEMENT AREAS (SCOPE, TIME, COST, PROCUREMENT, QUALITY, RISK, COMMUNICATION, STAKEHOLDERS, INTEGRATION AND RESOURCES).
- UNDERSTAND AND USE PMBoK (Project Management Book of Knowledge).
- APPLY PREVIOUS LEARNINGS INTO A REAL H2020 PROPOSAL IN THE FIELD OF SPACE.

STUDY LOAD

Type	Hours	Percentage
Hours small group	30,0	24.00
Self study	80,0	64.00
Hours large group	15,0	12.00

Total learning time: 125 h

CONTENTS

Module 1: Project Management and its processes

Description:

1.1 La direcció de projectes: Concepte. Fonaments de la direcció de projectes. Rol del director del projecte

1.2 Organització i cicle de vida del projecte: Estructura organitzativa. Stakeholders. El equip del projecte. Cicle de vida del projecte

1.3 Grups de processos de la direcció de projectes: Processos d'inici. Processos de planificació. Processos d'execució. Processos de seguiment i control. Processos de tancament- Interacció entre els grups de processos.

1.4 Gestió de la integració del projecte

Related activities:

Activitat 1: Sessions grup gran/teoria

Activitat 2: Exercicis sessions de teoria

Activitat 3: Cas pràctic

Full-or-part-time: 14h

Theory classes: 2h

Laboratory classes: 4h

Self study : 8h

title english

Description:

content english

Full-or-part-time: 18h

Theory classes: 2h

Laboratory classes: 4h

Self study : 12h

title english

Description:

content english

Full-or-part-time: 18h

Theory classes: 2h

Laboratory classes: 4h

Self study : 12h

title english

Description:

content english

Full-or-part-time: 25h

Theory classes: 3h

Laboratory classes: 6h

Self study : 16h

title english

Description:

content english

Full-or-part-time: 25h

Theory classes: 3h

Laboratory classes: 6h

Self study : 16h

title english

Description:

content english

Full-or-part-time: 25h

Theory classes: 3h

Laboratory classes: 6h

Self study : 16h

GRADING SYSTEM

FINAL MARK IS DIVIDED INTO SEVERAL ASSESSMENTS:

- 8% as Case Studies (individual mark to the preliminary solution)
- 12% as Case Studies (individual mark after group discussion)
- 5% as Deliverable D1 (group mark for the Project Charter and Stakeholders Management Plan)
- 15% as Deliverable D2 (group mark for Scope-Time-Cost Management plans)
- 10% as Deliverable D3 (group mark for Procurement-Quality-Risk-Communication Management plans)
- 10% as Deliverable D4 (group mark for the H2020 proposal)
- 10% as Group presentation (group mark for the H2020 final presentation)
- 30% as Teamwork (individual mark related to the involvement into the group project).

EXAMINATION RULES.

General UPC assessment framework and specific ESEIAAt assessment framework

BIBLIOGRAPHY

Basic:

- A guide to the project management body of knowledge (PMBOK® Guide) [on line]. 6th ed. Newtown Square, Pa: Project Management Institute, Inc, 2017 [Consultation: 03/05/2022]. Available on: <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=5180849>. ISBN 9781628253900.
- ISO 21500:2012. Guidance on project management.

Complementary:

- Lock, Dennis. Fundamentos de la gestión de proyectos. Madrid: AENOR, cop. 2003. ISBN 848143342X.
- Ostwald, P. F.; McLaren, T. S. Cost analysis and estimating for engineering and management. Upper Saddle River, NJ: Pearson Education, cop. 2004. ISBN 0131421271.
- Wysocki, R. K.; McGary, R. Effective project management: traditional, adaptive, extreme. 3rd ed. Indianapolis: Wiley, cop. 2003. ISBN 0471432210.
- Stevenson, S.; Whitmore, S. Strategies for engineering communication. New York: John Wiley & Sons, 2002. ISBN 0471128171.
- Kerzner, Harold. Project management: a systems approach to planning, scheduling and controlling [on line]. 11th ed. Hoboken: John Wiley & Sons, 2013 [Consultation: 03/05/2022]. Available on:



<https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=1113482>. ISBN 9781118022276.

- Buchtik, Liliana. Secrets to mastering the WBS in real-world projects: the most practical approach to work breakdown structures (WBS)! [on line]. 2nd ed. Pennsylvania: Project Management Institute, 2013 [Consultation: 03/05/2022]. Available on: <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=4603796>. ISBN 9781628250336.