

300229 - NACC-MN4 - Air Navigation, Cartography and Cosmography

Coordinating unit:	300 - EETAC - Castelldefels School of Telecommunications and Aerospace Engineering		
Teaching unit:	748 - FIS - Department of Physics 739 - TSC - Department of Signal Theory and Communications		
Academic year:	2018		
Degree:	BACHELOR'S DEGREE IN AIR NAVIGATION ENGINEERING (Syllabus 2010). (Teaching unit Compulsory) BACHELOR'S DEGREE IN AEROSPACE SYSTEMS ENGINEERING (Syllabus 2015). (Teaching unit Optional) BACHELOR'S DEGREE IN AEROSPACE SYSTEMS ENGINEERING/BACHELOR'S DEGREE IN TELECOMMUNICATIONS SYSTEMS ENGINEERING (Syllabus 2015). (Teaching unit Optional) BACHELOR'S DEGREE IN AEROSPACE SYSTEMS ENGINEERING/BACHELOR'S DEGREE IN NETWORK ENGINEERING (Syllabus 2015). (Teaching unit Optional)		
ECTS credits:	6	Teaching languages:	Catalan

Teaching staff

Coordinator:	Definit a la infoweb de l'assignatura.
Others:	Definit a la infoweb de l'assignatura.

Degree competences to which the subject contributes

Specific:

1. CE 15 AERO. Conocimiento adecuado y aplicado a la Ingeniería de: Los principios de la mecánica del medio continuo y las técnicas de cálculo de su respuesta. (CIN/308/2009, BOE 18.2.2009)
2. CE 16 AERO. Conocimiento adecuado y aplicado a la Ingeniería de: Los conceptos y las leyes que gobiernan los procesos de transferencia de energía, el movimiento de los fluidos, los mecanismos de transmisión de calor y el cambio de materia y su papel en el análisis de los principales sistemas de propulsión aeroespaciales. (CIN/308/2009, BOE 18.2.2009)
3. CE 17 AERO. Conocimiento adecuado y aplicado a la ingeniería de: Los elementos fundamentales de los diversos tipos de aeronaves ; los elementos funcionales del sistema de navegación aérea y las instalaciones eléctricas y electrónicas asociadas; los fundamentos del diseño y construcción de aeropuertos y sus diversos elementos. (CIN/308/2009, BOE 18.2.2009)
4. CE 18 AERO. Conocimiento adecuado y aplicado a la Ingeniería de: Los fundamentos de la mecánica de fluidos; los principios básicos del control y la automatización del vuelo; las principales características y propiedades físicas y mecánicas de los materiales. (CIN/308/2009, BOE 18.2.2009)
5. CE 19 AERO. Conocimiento aplicado de: la ciencia y tecnología de los materiales; mecánica y termodinámica; mecánica de fluidos; aerodinámica y mecánica del vuelo; sistemas de navegación y circulación aérea; tecnología aeroespacial; teoría de estructuras; transporte aéreo; economía y producción; proyectos; impacto ambiental. (CIN/308/2009, BOE 18.2.2009)

Transversal:

6. SELF-DIRECTED LEARNING - Level 1. Completing set tasks within established deadlines. Working with recommended information sources according to the guidelines set by lecturers.
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.
8. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.
9. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 1. Planning oral communication, answering questions

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properly and writing straightforward texts that are spelt correctly and are grammatically coherent.

10. 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.

11. 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.

12. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

13. TEAMWORK - Level 1. Working in a team and making positive contributions once the aims and group and individual responsibilities have been defined. Reaching joint decisions on the strategy to be followed.

14. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.

15. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.

Learning objectives of the subject

Study load

Total learning time: 150h	Hours large group:	39h	26.00%
	Hours medium group:	0h	0.00%
	Hours small group:	26h	17.33%
	Guided activities:	1h	0.67%
	Self study:	84h	56.00%

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Content

(ENG) -Elements fonamentals de la navegació aèria	Learning time: 21h 30m Theory classes: 5h 30m Laboratory classes: 4h Self study : 12h
(ENG) -Forma, dimensions i moviments de la Terra	Learning time: 21h 30m Theory classes: 5h 30m Laboratory classes: 4h Self study : 12h
(ENG) -Distàncies entre punts sobre la Terra	Learning time: 21h 30m Theory classes: 5h 30m Laboratory classes: 4h Self study : 12h
(ENG) -El Temps	Learning time: 21h 30m Theory classes: 5h 30m Laboratory classes: 4h Self study : 12h
(ENG) -Cartografia aeronàutica	Learning time: 21h 30m Theory classes: 5h 30m Laboratory classes: 4h Self study : 12h
(ENG) -Navegació basada en la performance (PBN)	Learning time: 21h 30m Theory classes: 5h 30m Laboratory classes: 4h Self study : 12h

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(ENG) -Sistemes de Navegació Global per Satèl·lit(GNSS)	Learning time: 21h 30m Theory classes: 5h 30m Laboratory classes: 4h Self study : 12h
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Planning of activities

(ENG) EXAMEN DE TEORIA 1	Hours: 1h 30m Guided activities: 1h 30m
(ENG) EXAMEN DE TEORIA 2	Hours: 1h 30m Guided activities: 1h 30m
(ENG) CONTROLS DE TEORIA	Hours: 4h Guided activities: 4h
(ENG) TREBALL SOBRE UN TEMA ESPECÍFIC PROPOSAT PEL PROFESSOR	Hours: 5h Self study: 5h

Bibliography

Complementary:

Calvo, José A. Fundamentos de navegación aérea. Madrid: Universidad Autónoma de Madrid, 2002. ISBN 8474778433.

Adsuar Mazón, Joaquín Carlos. Navegación aérea : desarrollo del sílabus oficial de los requisitos conjuntos de aviación (JAR). 3ª ed. Madrid: Paraninfo, 2009. ISBN 9788428329477.

Others resources: