



## 220301 - Aerodynamics, Flight Mechanics and Orbital Mechanics

Coordinating unit: 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering  
Teaching unit: 220 - ETSEIAT - Terrassa School of Industrial and Aeronautical Engineering  
Academic year: 2018  
Degree: MASTER'S DEGREE IN AERONAUTICAL ENGINEERING (Syllabus 2014). (Teaching unit Compulsory)  
ECTS credits: 7,5 Teaching languages: Catalan, Spanish

### Teaching staff

Coordinator: Oriol Lizandra

Others: Jaume Calaf

### Learning objectives of the subject

### Study load

Total learning time: 187h 30m	Hours large group:	45h	24.00%
	Hours small group:	22h 30m	12.00%
	Self study:	120h	64.00%

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### Content

title english	Learning time: 30h Theory classes: 8h Laboratory classes: 4h Self study : 18h
Description: content english	
title english	Learning time: 19h 30m Theory classes: 5h Practical classes: 2h 30m Self study : 12h
Description: content english	
title english	Learning time: 78h Theory classes: 18h Laboratory classes: 9h Self study : 51h
Description: content english	
title english	Learning time: 15h Theory classes: 4h Laboratory classes: 2h Self study : 9h
Description: content english	

## 220301 - Aerodynamics, Flight Mechanics and Orbital Mechanics

title english	Learning time: 45h Theory classes: 10h Laboratory classes: 5h Self study : 30h
Description: content english	

### Planning of activities

name english	Hours: 87h 30m Laboratory classes: 12h 30m Theory classes: 25h Self study: 50h
name english	Hours: 75h Laboratory classes: 10h Theory classes: 20h Self study: 45h
name english	Hours: 25h Self study: 25h

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### Bibliography

#### Basic:

Anderson, John D. Fundamentals of aerodynamics. 5th ed. New York: McGraw-Hill, 2011. ISBN 9780073398105.

Anderson, John D. Introduction to flight. 7th ed. New York: McGraw-Hill, 2012. ISBN 9780073380247.

Ashley, Holt. Engineering analysis of flight vehicles. New York: Dover, 1992. ISBN 0486672131.

Chobotov, Vladimir A. Orbital mechanics. 3rd ed. Reston, VA: American Institute of Aeronautics and Astronautics, 2002. ISBN 1563475375.

Etkin, B.; Reid, L. D. Dynamics of flight: stability and control. 3rd ed. New York: John Wiley & Sons, 1996. ISBN 0471034185.

#### Complementary:

Abzug, M. J.; Larrabee, E. E. Airplane stability and control: a history of the technologies that made aviation possible. 2nd ed. Cambridge: Cambridge University Press, 2002. ISBN 0521809924.

Abzug, M. J. Computational flight dynamics. Reston: American Institute of Aeronautics and Astronautics, 1998. ISBN 1563472597.

Miele, Angelo. Flight mechanics. Vol. 1, theory of flight paths. Reading, Massachusetts [etc]: Addison Wesley, 1962.