

t.FOP - Führung, Ortung und Positionierung

Person responsible for the course: Heinz Wipf, td11
Credits: 4
Valid for: 2010/2011
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Learning objectives:

The students

- know the principles of positioning and locating,
 - understand the necessary principles of geodesy,
 - are able to apply the various procedures of positioning and locating, in particular in respect to radionavigation, at an basic level and have the ability, knowledge and skills to further expand the topic.
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Course content:

Geodesy and mathematical principles

- introduction to geodesy
- projections, coordination transformations, spheric trigonometry
- the notion of time in navigation
- magnetism and compass
- positioning, location and guidance
- the notion of error and the magnitude of error in navigation
- reliability

Radioelectric principles

- phenomena of wave propagation,
- mathematical and physical relations,
- antennas,
- interference

JAR-FCL 061:

- BASICS OF NAVIGATION
 - MAGNETISM AND COMPASSES
 - CHARTS
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Previous knowledge:

mathematics: trigonometry, matrix algebra, analytical geometry, vector calculations
physics: electrodynamics, optics,
electrical engineering: principles of direct (DC) and alternating current (AC)

Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14*(2L)
Tutorial/Practicum	
Group teaching	
Block instruction	
Seminar	14*(2L)

Assessment:

According to the table or as specified in writing by the lecture at the beginning of the semester!

Number	Type	Weighting
1	End of term exam	80%
1	Exam during the semester	20%
	Further assessments	

Language of instruction:

German

Instruction material:

Slides in PDF format

Readers in PDF format

further literature

ISBN 3778522027

"Funkortungs- und Funknavigationsanlagen"

Mansfeld, Werner

Hüthig

Heidelberg 1994

Comments:

Lecturers:

Prof Dr. A. Geiger dipl. Ing. ETH

Dr. M. Scaramuzza dipl. Ing. ETH

H. Wipf dipl. Ing. HTL