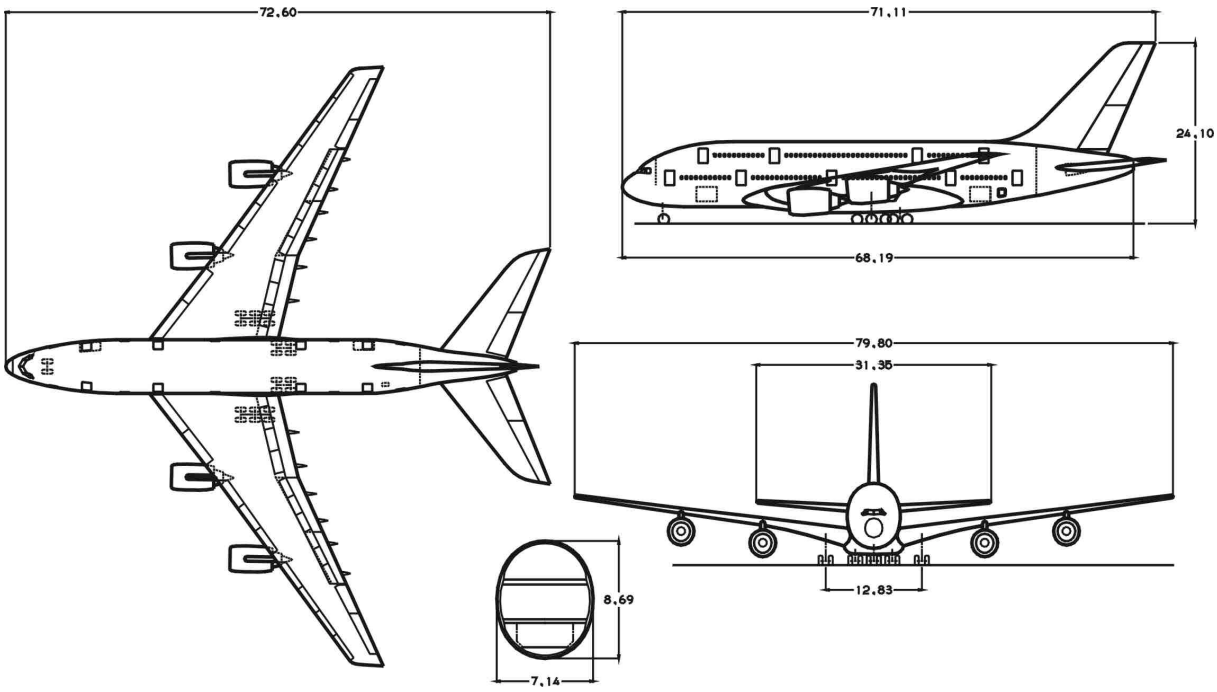
Short Course

Aircraft Design



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Short Course

Aircraft Design

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Course Leader and Editor

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- Professor at Hamburg University of Applied Sciences, Department of Automotive and Aeronautical Engineering. Teaching and research in the area of Aircraft Design, Flight Mechanics, Aircraft Systems.
- Head of the DGLR specialist committee Manned Aircraft.
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Course Instructors and Authors

Four universities – one short course

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- Lecturer at Technical University Munich and at Bundeswehrakademie in Mannheim.
- Vice President Advanced Design & Technology EADS Military Air Systems (retired).

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- Professor at Technical University Berlin, Institute of Aeronautics and Astronautics, Aircraft Design and Aerostructures Group.
- Senior Manager Fleet Development Deutsche Lufthansa (retired).
- http://www.ilr.tu-berlin.de/LB

Short Course Management

Peter Brandt (Generalsekretär, DGLR)

Support Team

Christian Matalla (HAW Hamburg),
Druckerei Thierbach.

Venue

Estrel Hotel, Berlin

Target Delegates

The DGLR Short Course is arranged for graduated engineers, equivalent professionals and/or managers. It is likewise suitable for specialists in search of a broader perspective as for new-comers to the field.

Aim

The Short Course gives an insight into the procedures and the multidisciplinary interactions of aircraft conceptual design. The process of iterative synthesis and analysis in aircraft design is illustrated. A software tool for preliminary sizing is demonstrated. Methods and data to enable case studies of subsonic aircraft design are provided.

Content

The Short Course "Aircraft Design" covers following topics:

- Introduction
- Development Process
- Requirements
- Certification Standards
- Preliminary Sizing
- Fuselage Design
- Wing Design
- Empennage Design
- Landing Gear Design and Integration
- Aircraft Configurations
- Design Evaluation / DOC
- Military Aircraft Development

Learning Objectives

On completion of the Short Course, delegates will

- know aircraft design parameters and methods
- know the fundamental relationship of aircraft design parameters
- be able to size and design an aircraft to the detail as covered during the Short Course
- have a capability to structure aircraft design activities systematically and efficiently.

Short Course Schedule

The Short Course is integrated into the *First CEAS European Air and Space Conference*. The plenary sessions of the congress are included into the short course schedule.

Monday, 10.09.2007	Opening Ceremony		
Tuesday, 11.09.07	**Short Course, Day 1**		
08:30 - 09:30	Congress	Space Agencies	
09:40 - 11:00	Short Course	Introduction, Development Process	D. Schmitt
11:20 - 12:40	Short Course	Requirements, Certification Standards	D. Schmitt
14:00 - 15:00	Congress	A380	
15:10 - 16:30	Short Course	Preliminary Sizing	D. Scholz
16:50 - 18:10	Short Course	Preliminary Sizing	D. Scholz
Wednesday, 12.09.07	**Short Course, Day 2**		
08:30 - 09:30	Congress	ATM	
09:40 - 11:00	Short Course	Fuselage Design	E. Rumpler
11:20 - 12:40	Short Course	Wing Design	D. Scholz
14:00 - 15:00	Congress	Bologna Process	
15:10 - 16:30	Short Course	Landing Gear Design	E. Rumpler
16:50 - 18:10	Short Course	Empenage Design	D. Scholz
Thursday, 13.09.07	**Short Course, Day 3**		
08:30 - 09:30	Congress	Technology	
09:40 - 11:00	Short Course	Aircraft Configuration	E. Rumpler
11:20 - 12:40	Short Course	Aircraft Configuration	E. Rumpler
14:00 - 15:00	Congress	Aeronautics	
15:10 - 16:30	Short Course	Aircraft Assessment	J. Thorbeck
16:50 - 18:10	Short Course	Aircraft Assessment	J. Thorbeck
Friday, 14.09.07	**Short Course, Day 4**		
08:30 - 09:50	Short Course	Military Aircraft Development	H. Ross
10:10 - 11:20	Short Course	Military Aircraft Development	H. Ross
12:20 - 13:40	Short Course	Military Aircraft Development	H. Ross
14:00 - 15:20	Short Course	Military Aircraft Development	H. Ross

Authors and Lecture Notes

D. Schmitt:
Lecture Notes: "Introduction, Aircraft Development, Certifications, Configurations"

D. Scholz:
Lecture Notes: "Preliminary Sizing"

E. Rumpler:
Lecture Notes: "Fuselage Design"

D. Scholz:
Lecture Notes: "Wing Design"

E. Rumpler:
Lecture Notes: "Landing Gear Design"

D. Scholz:
Lecture Notes: "Empenage Design"

E. Rumpler:
Lecture Notes: "Engine Integration"

E. Rumpler:
Lecture Notes: "Aircraft Configuration Design"

J. Thorbeck:
Lecture Notes: "From Aircraft Performance to Aircraft Assessment"

H. Ross:
Lecture Notes: "Military Aircraft Development"

The total notes of this short course consist of more than 390 pages.

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