Short Course

Aircraft Design
Deutsche Gesellschaft für Luft- und Raumfahrt
Lilienthal Oberth e. V.
Godesberger Allee 70
D-53175 Bonn

Short Course

Aircraft Design

Berlin, Germany, 11 – 14 September 2007

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Dieter Schmitt
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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.
• http://www.ProfScholz.de

Course Instructors and Authors

Dipl.–Ing. Hannes Ross
• 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 Munich, Institute of Aeronautical Engineering.
• Airbus Vice President "Research & Future Projects" (retired).
• http://www.llt.mw.tum.de

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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

Four universities – one short course
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 newcomers 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.

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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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