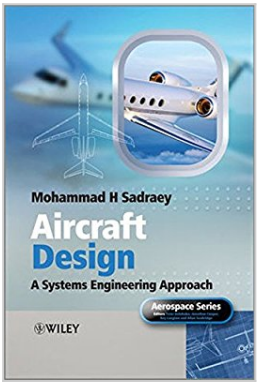

Aircraft Design: A Systems Engineering Approach

By Mohammad H. Sadraey

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A comprehensive approach to the air vehicle design process using the principles of systems engineering

Due to the high cost and the risks associated with development, complex aircraft systems have become a prime candidate for the adoption of systems engineering methodologies. This book presents the entire process of aircraft design based on a systems engineering approach from conceptual design phase, through to preliminary design phase and to detail design phase.

Presenting in one volume the methodologies behind aircraft design, this book covers the components and the issues affected by design procedures. The basic topics that are essential to the process, such as aerodynamics, flight stability and control, aero-structure, and aircraft performance are reviewed in various chapters where required. Based on these fundamentals and design requirements, the author explains the design process in a holistic manner to emphasise the integration of the individual components into the overall design. Throughout the book the various design options are considered and weighed against each other, to give readers a practical understanding of the process overall.

Readers with knowledge of the fundamental concepts of aerodynamics, propulsion, aero-structure, and flight dynamics will find this book ideal to progress towards the next stage in their understanding of the topic. Furthermore, the broad variety of design techniques covered ensures that readers have the freedom and flexibility to satisfy the design requirements when approaching real-world projects.

Key features:

- Provides full coverage of the design aspects of an air vehicle including: aeronautical concepts, design techniques and design flowcharts

- Features end of chapter problems to reinforce the learning process as well as fully solved design examples at component level

- Includes fundamental explanations for aeronautical engineering students and practicing engineers

• Features a solutions manual to sample questions on the book's companion website

Companion website - **www.wiley.com/go/sadraey**

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Editorial Review

Review

“Summing Up: Highly recommended. All academic and technical program engineering collections.” (*Choice*, 1 October 2013)

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From the Back Cover

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Daniel Webster College, New Hampshire, USA

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