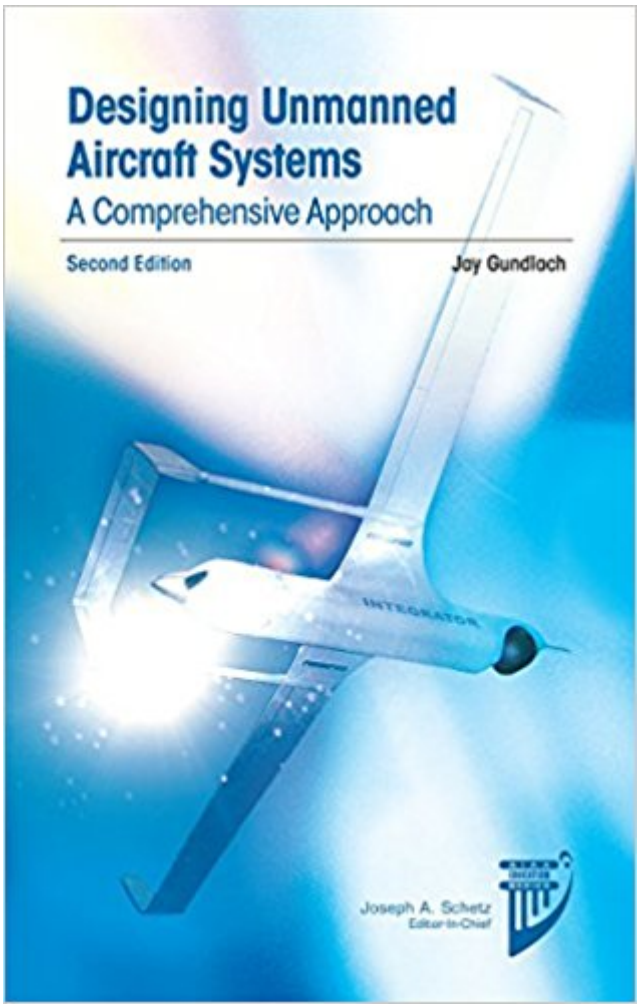
Designing Unmanned Aircraft Systems: A Comprehensive Approach, Second Edition (AIAA Education Series)



Synopsis

Unmanned aircraft systems (UAS) are revolutionizing our approach to flight. Whether monitoring severe weather or conducting a military operation, new versions of these machines and the components that operate them are being developed and implemented at an unprecedented rate as corporations, governments, academia, and private individuals all seek to understand and capitalize upon this innovative, expanding field. Whether for classroom use or self-study, Designing Unmanned Aircraft Systems is the most authoritative single-volume reference available on UAS design. It investigates all elements of the design process, including architectural options and design drivers across diverse system classes. It provides a comprehensive understanding of the end-to-end unmanned aircraft system and a deeper appreciation for the multidisciplinary nature of UAS design. New to the second edition are chapters on Vertical Take-Off and Landing (VTOL), Airships, and Unconventional Vehicles as well as Special Topics in Unmanned Aviation. The latter discusses export and arms control, airspace integration, and societal issues that are increasingly a part of public discourse.

Book Information

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Customer Reviews

Indeed such an all-inclusive book would make a very worthy addition to the bookshelf of anybody whose technical profession even touches upon the UAS domain. --The Aeronautical Journal

This is a good overview book on design of a UAV as an "aircraft" with useful inputs on how the fact that the aircraft is unmanned affects the design on the machine. Look somewhere else if you are in need of a book that talks about designing a UAV as as "autonomous robot" (vs. "a flying machine"). The control system, AI and mission automation aspects of the UAV design are discussed on a very limited scale primarily from the point of view of "power requirements" and "weight penalties".Loved the section that discusses how sensor footprint requirements affect the design of the rest of the aircraft.The book reminded me of Raymer's "Aircraft Design-A Conceptual Approach" classic with less depth but with injection of UAV-specific topics here and there while the software and control systems aspects were missing.Still a very good overview book covering a very wide spectrum of topics.

As comprehensive a treatise on this timely subject as I have seen .Recommended unequivocally.

This book is a step above most other uav design books in comprehensiveness. It's length is not much considering it only breezes on most topics, however, there is more than 20 topics that are explained and explicitly equated in an efficient manner. I would suggest to any kid who wants to build their own system. grade: 9.5/10

Comprehensive, accurate and well Comprehensive, accurate and well written book. The content is updated, well based on physical principles and mathematics. The index is friendly and easy to use. written book. The content is updated and well presented.

In my senior year of undergraduate study, I used the Raymer Conceptual Design Text (Aircraft Design: A Conceptual Approach, Fourth Edition (Aiaa Education Series)) for the design course. I enjoyed using that book due to its well thought-out examples and direct applicability to current problems. With that being said, some of the data used to create the correlations described at length in that text were outdated. That background led me to look forward to utilizing this new book in a UAS design course I took recently.The book is on the bleeding edge with UAV information. It goes quite far into the weeds in some cases, such as electric propulsion, which made myself (and my professor) believe it would be good to skim for the class and then keep for a reference text. Sadly, for all of the depth, there are many, many issues. I expect that about this time my professor is sending in a lengthy list of errata that we discovered throughout the class. It got to the point that we were asked to check all equations with other texts before using them for homework/projects.

Furthermore, the authors of this text have what I consider some unforgivable habits such as using terms in equations without defining them or defying convention when it comes to terminology and some symbols used. One more final critique: possibly in future versions the authors may wish to spend a bit more time describing or laying out the design process, and then orient the text to follow that process; I would find that format more helpful.My recommendation: Wait for the second (or third) edition, then pick it up as a reference.

This is probably the best book, thus far, dedicated to UAS design. In my opinion, it is on par with http://www..com/Aircraft-Design-Conceptual-Approach-Education/dp/1563478293/ref=pd_bxgy_b_img_b by Raymer, Daniel P. and http://www..com/Fundamentals-Aircraft-Airship-Design-Education/dp/1600867510/ref=sr_1_1?ie=UTF8&qid=1340673074&sr=8-1&keywords=fundamentals+of+aircraft+and+airship+design by Nicolai, Leeland and Carichner, Grant but devoted to UAS design. I highly recommend this book if you're into UAS design.

Unmanned Aircraft that are Filling Our Skies Small Unmanned Aircraft: Theory and Practice Drones in Society: Exploring the strange new world of unmanned aircraft Unmanned Aircraft in the National Airspace: Critical Issues, Technology, and the Law Elements of Propulsion: Gas Turbines and Rockets, Second Edition (Aiaa Education)