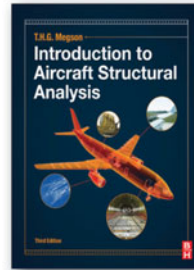


For instance the book is 168 pages, but only has 14 pages dedicated to metal AM. There are an additional 16 pages in Chapter 3 dedicated to metal properties, but this chapter could quite easily be extracted from a non-AM related book focusing on other metal processing technologies. There are other related metal AM sections scattered across the book (for instance, when discussing design), however, not enough to merit a book entitled *Additive Manufacturing of Metals*.

To me, the book seems a bit disjointed in regards to topics covered and incomplete. For instance, why is there a chapter dedicated to Electron Beam Manufacturing (EBM) but none to Selective Laser Melting (SLM)? SLM is by far a more widely used metal AM process throughout the world, much more compared to EBM. Some aspects of SLM are covered but are scattered throughout the book, i.e. placed in Chapter 5.5 in design considerations; the topics covered here should not fall within a 'design considerations section' but rather a dedicated chapter to SLM-related processing conditions.

Overall, the book covers some interesting topics that are not included in other AM books; however, in the book topics, structure and detail related to metal AM are incomplete. People will buy this (but perhaps not intermediate to advanced users of this technology) within industry and academia, but the subject area has more potential to be covered in a more detailed and logical manner.

Dr. Kamran Mumtaz
University of Sheffield



Introduction to Aircraft Structural Analysis – 3rd Edition

T. H. G. Megson

Elsevier Butterworth-Heinemann, The Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB, UK. 2017. xiii; 743pp. Illustrated. £62.50. ISBN 978-0-08-102076-0.

The analysis of thin-walled aircraft structures normally takes two forms. Firstly, the actual aircraft structure is idealised locally as a component such that an exact solution is then obtainable using classical applied mechanics. Secondly, the structure is approximated numerically (by finite elements) such that by using modern computer power, the model can be virtually exact and a numerical value given of the stresses etc.

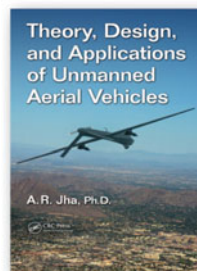
The first approach has been used for decades, before the advent of computers, and this book has been a classic aid for such analysis, popular for students and practicing engineers. A list of the subjects of the chapter headings shows how many forms of idealised components can be analysed.

- Basic Elasticity
- Torsion of solid sections
- Thin plate theory
- Buckling of columns and plates
- Material properties
- Fatigue
- Bending, shear and torsion of open and closed thin-walled beams
- Stress analysis of wing spars, fuselages, and wings
- Laminated composite structures

Problems and solutions are given at the end of each chapter. These are helpful for students and reflect the fact that the author was an academic at Leeds University.

The reader will not find this book helpful for finite element methods, although, to be honest, there is a chapter explaining numerical methods with examples of triangular and quadrilateral elements. It shows its age by calling these ‘Matrix Methods’. No details are given why it is crucial to use the same numerical mapping for both shape and displacements. No discussion either of modern codes and their power to quickly create models, display results, use multi-layer sub-structuring, etc. It is clearly a dated book in this respect, and no surprise that all references to numerical analysis occur before 1967.

Professor G. A. O. Davies, CEng, FRAeS



Theory, Design and Applications of Unmanned Aerial Vehicles

A. R. Jha

CRC Press, Taylor & Francis Group, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL, 33487-2742, USA. 2017.

Distributed by Taylor & Francis Group, 2 Park Square, Milton Park, Abingdon, OX14 4RN. 294pp. Illustrated. £57.99. (20% discount available to RAeS members via www.crcpress.com using AKQ07 promotion code). ISBN 978-1-4987-1542-3.

The aim of the author was to provide a ‘complete overview of the theory, design, and applications of unmanned aerial vehicles’. The book falls short of this ambitious task, perhaps due to the ‘tight time schedule’ cited in the preface.

The book mostly focuses on military systems, although there is an introduction to civil Unmanned Aerial Vehicles (UAVs) in the first chapter. The second chapter provides an introduction to ground control stations and the roles of the ground crew followed by a short description of a number of military UAVs operative in various countries. The other chapters deal with technical topics