

Routledge

Aviation
Textbook Catalogue
Spring 2024



Routledge
Taylor & Francis Group

www.routledge.com

Welcome to the Aviation Textbook Catalogue Spring 2024

eBooks

We have over 50,000 eBooks available across the Humanities, Social Sciences, Behavioural Sciences, Built Environment, STM and Law, from leading Imprints, including Routledge, Focal Press and Psychology Press. These eBooks are available for both individual and institutional purchase.

INDIVIDUALS

Our eBooks are available from Amazon, Apple iBookstore, Google eBooks, Ebooks.com, Kobo, Barnes & Noble, Waterstones, Mobipocket, VitalSource, and CourseSmart.

LIBRARIES AND INSTITUTIONS

Subscribe to or purchase a wide range of eBook packages or pick and mix your own from our complete collection (a minimum number of titles applies). FREE TRIALS are available. For more information, please visit www.tandfebooks.com or contact your local sales team.

eUpdates

Register your email at www.tandf.co.uk/eupdates to receive information on books, journals and other news within your area of interest.

an **informa** business

Prices, publication dates and content are correct at time of going to press, but may be subject to change without notice.

Partnership Opportunities at Routledge

At Routledge we always look for innovative ways to support and collaborate with our readers and the organizations they represent.

If you or your organization would like to discuss partnership opportunities, from reciprocal marketing activities to commercial enterprises, please do get in touch on partnerships@routledge.com.

Considering Books for Course Use?



This symbol shows books that are available as complimentary exam copies for lecturers or faculty considering them for course adoption. To obtain your copy visit the URL listed beneath the title in the catalog and select your choice of print or electronic copy.

Visit www.routledge.com or in the US you can call 1-800-634-7064.



This symbol shows books that are available as electronic inspection copies only.

For a complete list, visit: www.routledge.com/representatives.

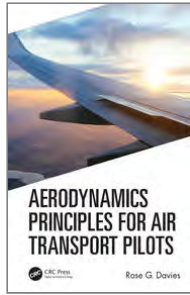
Trade Customers' Representatives, Agents and Distribution

For a complete list, visit:
www.routledge.com/representatives.

Contents

Aerodynamics	2
Aerospace Project Management	3
Air Traffic Management	4
Aircraft Performance	5
Aviation Safety	6
Aviation Safety/Aerospace System Safety	7
Aviation/Aircraft Systems	8
Control Systems	9
Crew Resource Management	10
Digital Control Systems	11
Flight Dynamics and Control	12
Flight Mechanics/Aircraft Design	13
Gas Turbines & Propulsion	14
Human Factors in the Aviation/Aerospace Industry	15
International Aviation	16
Introduction to Flight	17
Introduction to Fluid Mechanics	18
Propulsion Systems - Advanced	19
Rocket Propulsion	20
Rotor Systems	21
Space Industry	22
Spacecraft	23
Sustainable/Green Aviation	24
Unmanned Aircraft Systems	25
Index	26

Aerodynamics Principles for Air Transport Pilots



Rose G Davies

Equipping readers with the ability to analyze the nature of airflow on aircrafts, the book provides comprehensive knowledge of the characteristics of subsonic and supersonic airflow. Readers will gain a clear understanding of the aerodynamic forces acting on an aircraft across a range of speeds and their effects on the aircraft's performance. The book emphasizes the connection between the operating actions in flight and aerodynamic requirements. The content will be of interest to senior undergraduates studying to obtain their Airline Transport Pilot License (ATPL)/Airline Transport Pilot (ATP) certificate, general aviation and air transport pilots, and aircraft maintenance engineers.

CRC Press

April 2020:266

Hb: 978-0-367-18854-2: **£105**

eBook: 978-0-429-26115-2

* For full contents and more information, visit: www.routledge.com/9780367188542

Aerospace Project Management Handbook



Edited by **M. Ann Garrison Darrin, Patrick A. Stadler**

The Aerospace Project Management Handbook focuses on space systems, exploring intricacies rarely seen in land-based projects. These range from additional compliance requirements from Earned Value Management requirements and regulations (ESA, NASA, FAA), to criticality and risk factors for systems where repair is impossible. Aerospace project management has become a pathway for success in harsh space environments, as the Handbook demonstrates. With chapters written by experts, this comprehensive book offers a step-by-step approach emphasizing the applied techniques and tools, and is a prime resource for program managers, technical leads, systems engineers, and principle payload leads.

CRC Press

May 2017:442

Hb: 978-1-498-77652-3: **£180**

eBook: 978-1-315-15488-6

* For full contents and more information, visit: www.routledge.com/9781498776523

Human Factors Impacts in Air Traffic Management



Edited by **Barry Kirwan, Mark Rodgers**

In research and application of Human Factors in Air Traffic Management (ATM) systems design, development and operation, there remains a lack of clarity regarding the range and integration of activities associated with the need for greater attention to issues such as human error, interface design and teamwork, especially in systems with increased levels of automation. This book seeks to redress this situation by presenting case studies of human factors applications in which there is demonstrable success in terms of improvement in operational systems. Individual examples are used to outline how each human factors study evolved, what it entailed, how it was resourced and how the results contributed to operational performance. Case studies include training methods, human error, team resource management, situation assessment, terminal automation replacement systems, collaborative decision-making to improve the effectiveness of traffic-flow management and the role of human factors in ATM.

Routledge

November 2016: 584

Hb: 978-0-754-63502-4: **£150**

Pb: 978-1-138-26431-1: **£51.99**

eBook: 978-1-315-25301-5

* For full contents and more information, visit: www.routledge.com/9781138264311

2ND EDITION

Aircraft Performance

An Engineering Approach

**Mohammad H. Sadraey**

Aircraft Performance: An Engineering Approach, Second Edition introduces flight performance analysis techniques of fixed-wing air vehicles, particularly heavier-than-aircraft. It covers maximum speed, absolute ceiling, rate of climb, range, endurance, turn performance, and takeoff run. The book is intended for senior undergraduate aerospace students taking courses in Aircraft Performance, Flight Dynamics, and Flight Mechanics. The second edition features new content on vertical takeoff and landing, UAV launch, UAV recovery, use of rocket engine as the main engine, range for electric aircraft, electric engine, endurance for electric aircraft, gliding flight, and climb-turn.

CRC Press

July 2023:692

Hb: 978-1-032-24515-7: £125

eBook: 978-1-003-27906-8

* For full contents and more information, visit: www.routledge.com/9781032245157

Foreign Object Debris and Damage in Aviation



Ahmed F. El-Sayed

Foreign Object Debris and Damage in Aviation discusses biological and non-biological Foreign Object Debris (FOD) and associated Foreign Object Damage (FOD) in aviation. Written for aviation industry personnel, aircraft transport and ground operators, and aircraft pilots, readers will learn to manage FOD to guarantee air traffic safety with minimum costs to airlines and airports. Management control for the debris begins at the aircraft design phase, and the book includes numerical analyses for estimating damage caused by strikes. It explores aircraft operation in adverse weather conditions and inanimate FOD management programs for airports, airframe, and engine manufacturers.

CRC Press

May 2022:544

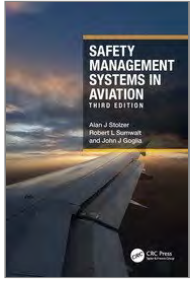
Hb: 978-0-367-67841-8: £145

eBook: 978-1-003-13308-7

* For full contents and more information, visit: www.routledge.com/9780367678418

3RD EDITION

Safety Management Systems in Aviation



Alan J. Stolzer, Robert L. Sumwalt, John J. Goglia

Safety Management Systems in Aviation, Third Edition presents the quality management underpinnings of SMS, the four components, risk management, reliability engineering, SMS implementation, and the scientific rigor that must be designed into proactive safety. The book is intended for undergraduate aviation students taking Safety Management and Aviation Safety courses. It also functions as a valuable reference tool for SMS practitioners. Including coverage on the cultures of regulatory organizations and expanded coverage on culture assessment, the book considers the nexus between cultural maturity and safety management performance.

CRC Press

April 2023:364

Hb: 978-1-032-26021-1: £135

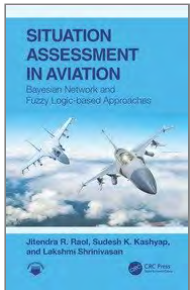
Pb: 978-1-032-26020-4: £51.99

eBook: 978-1-003-28612-7

* For full contents and more information, visit: www.routledge.com/9781032260204

Situation Assessment in Aviation

Bayesian Network and Fuzzy Logic-based Approaches



Jitendra R. Raol, Sudesh K. Kashyap, Lakshmi Shrinivasan

Situation Assessment in Aviation new aspects of soft computing technologies for evaluation and assessment of situations in aviation scenarios. It considers using technologies, emerging from: multisensory data fusion (MSDF), Bayesian networks (BN), and fuzzy logic (FL), to assist pilots in their decision-making. The book is intended for aerospace R&D engineers, systems engineers, aeronautical engineers, and aviation training professionals. It will also be useful for aerospace and electrical engineering students taking courses in Air Traffic Management, Aviation Management, Aviation Operations, and Aviation Safety Systems.

CRC Press

February 2024:434

Hb: 978-1-032-44093-4: £145

eBook: 978-1-003-37041-3

* For full contents and more information, visit: www.routledge.com/9781032440934

2ND EDITION

Systems Engineering for Commercial Aircraft

A Domain-Specific Adaptation

**Scott Jackson**

The key principle of systems engineering is that an aircraft should be considered as a whole and not as a collection of parts. Another principle is that the requirements for the aircraft and its subsystems emanate from a logical set of organized functions and from economic or customer-oriented requirements as well as the regulatory requirements for certification. The resulting process promises to synthesize and validate the design of aircraft which are higher in quality, better meet customer requirements and are most economical to operate.

Routledge

March 2017:NA

Hb: 978-1-472-43921-5: **£94.99**Pb: 978-1-138-04529-3: **£39.99**

eBook: 978-1-003-07504-2

* For full contents and more information, visit: www.routledge.com/9781138045293

3RD EDITION

Aircraft Communications and Navigation Systems

**Mike Tooley, David Wyatt**

This introduces the principles for aircraft maintenance engineering especially for Air Transport Association of America chapters 23/34, and modules 11 and 13 of part-66 of the European Aviation Safety Agency syllabus. It supports any EASA or FAR-147-approved course in aerospace engineering. It includes a new chapter on EMC, with examples of EMI, and covers antenna configuration and matching; the Smith Chart; Virtual Network Analysis; Software Defined Radio technology; precision-area navigation (P-RNAV); phased array radar technology; and ADS-B and FANS mandates. With self-test questions, exercises and multiple choice questions, and interactive materials on the book's website.

Routledge

March 2024: 390

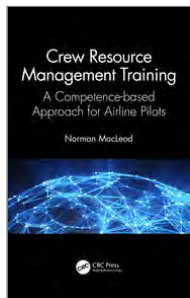
Hb: 978-1-032-53415-2: **£120**Pb: 978-1-032-51808-4: **£44.99**

eBook: 978-1-003-41193-2

* For full contents and more information, visit: www.routledge.com/9781032518084

Crew Resource Management Training

A Competence-based Approach for Airline Pilots



Norman MacLeod

The book provides a data-driven approach to real-world CRM applicable to commercial pilot performance. It addresses the shift to a systems-based resilience thinking that aims to understand how worker performance provides a buffer against failure. Airlines, pilots, and aviation industry professionals will benefit from the insights into organisational design and alternative approaches to training. Taking a competence-based approach offers a more coherent, relevant approach to CRM. The book presents relevant, real world examples of the concepts and outlines a change in thinking around pilot performance and interpretation of data that is overdue.

CRC Press

May 2023:325

Hb: 978-0-367-68731-1: £120

Pb: 978-0-367-68732-8: £45.99

eBook: 978-1-003-13883-9

* For full contents and more information, visit: www.routledge.com/9780367687328

3RD EDITION

Aircraft Digital Electronic and Computer Systems



Mike Tooley

This text is a thorough introduction to the principles and practice of aircraft digital electronic, avionic and computer systems. It particularly suits maintenance engineer students on an EASA Part-66 or FAR-147 approved course, and those on related City & Guilds, National or Higher National Units, or First/Foundation degree courses in aircraft engineering and similar. New topics in this third edition include integrated modular avionics, cabin systems, and aircraft information systems; together with examples from the latest Airbus and Boeing systems, and updates to data buses and integrated circuits. The companion website www.66web.co.uk offers additional resource material.

Routledge

July 2022:412

Hb: 978-1-032-10482-9: £84.99

Pb: 978-1-032-10480-5: £45.99

eBook: 978-1-003-21551-6

* For full contents and more information, visit: www.routledge.com/9781032104805

Control Systems

Classical, Modern, and AI-Based Approaches



Jitendra R. Raol, Ramakalyan Ayyagari

This book provides a broad and comprehensive study of the principles, mathematics, and applications for studying basic control in Mechanical, Electrical, Aerospace, and other engineering disciplines. The text builds a strong mathematical foundation of control theory, introducing linear, non-linear, digital, optimal, and robust control systems, and builds upon that foundation to address applications in emerging areas such as unmanned aircraft systems, robotic systems, and spacecraft. Numerical coverage with MATLAB® is integrated, and numerous examples and exercises are included in each chapter; and MATLAB® code will be available.

CRC Press

July 2019:668

Hb: 978-0-815-34630-2: £125

eBook: 978-1-351-17080-2

* For full contents and more information, visit: www.routledge.com/9780815346302

Advanced Flight Dynamics with Elements of Flight Control



Nandan K. Sinha, N. Ananthkrishnan

Advanced Flight Dynamics highlights the revised and corrected aerodynamic modeling. It uses bifurcation and continuation theory, especially the Extended Bifurcation Analysis (EBA) procedure, to blend the subjects of aircraft performance, trim and stability, and flight control into a unified whole. Present book is based exclusively on the use of bifurcation and continuation methods for flight dynamic analysis. Furthermore, it uses the generalized Nonlinear Dynamic Inversion (NDI) methodology to illustrate the fundamental principles of flight control. The NDI methodology when used with the EBA procedure allows us to demonstrate trim and stability in the closed-loop in a convenient manner.

CRC Press

June 2017:366

Hb: 978-1-498-74604-5: £145

Pb: 978-1-138-74603-9: £74.99

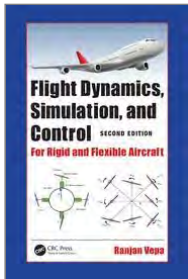
eBook: 978-1-315-15197-7

* For full contents and more information, visit: www.routledge.com/9781138746039

2ND EDITION

Flight Dynamics, Simulation, and Control

For Rigid and Flexible Aircraft



Ranjan Vepa

Flight Dynamics, Simulation, and Control of Aircraft: For Rigid and Flexible Aircraft, Second Edition explains the basics of nonlinear aircraft dynamics and the principles of control configured aircraft design, as applied to rigid and flexible aircraft, drones, and UAVs. The book is intended for senior undergraduate and graduate engineering students taking Flight Dynamics and Flight Control courses. The book covers the conventional dynamics of rigid aircraft and examines the use of linear and non-linear model-based techniques and their applications to flight control. It also includes an updated Solutions Manual and PowerPoint slides for instructor use.

CRC Press

April 2023:642

Hb: 978-1-032-21003-2: £125

eBook: 978-1-003-26631-0

* For full contents and more information, visit: www.routledge.com/9781032210032

Aircraft Design Concepts

An Introductory Course



James DeLaurier

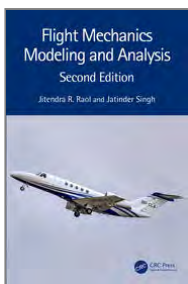
Aircraft Design Concepts: An Introductory Course introduces the principles of aircraft design through a quantitative approach developed from the author's extensive experience in teaching aircraft design. Building on prerequisite courses, the text develops basic design skills and methodologies, while also explaining the underlying physics. Written for senior undergraduate and graduate students taking a single-semester course on Aircraft Design or Aircraft Performance, the book imparts both the technical knowledge and creativity needed for aircraft design. It addresses conventional tail-aft monoplanes, "flying-wing", biplane, and canard configurations.

CRC Press
May 2022:581
Hb: 978-1-138-03339-9: £135
eBook: 978-1-315-22816-7

* For full contents and more information, visit: www.routledge.com/9781138033399

2ND EDITION

Flight Mechanics Modeling and Analysis



Jitendra R. Raol, Jatinder Singh

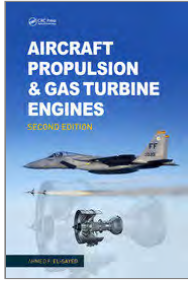
Flight Mechanics Modeling and Analysis comprehensively covers flight mechanics and flight dynamics using a systems approach. The book focuses on applied mathematics and control theory in its discussion of flight mechanics to build a strong foundation for solving design and control problems. The book is intended for senior undergraduate aerospace students taking Aircraft Mechanics, Flight Dynamics & Controls, and Flight Mechanics courses. The second edition includes two new chapters and coverage of aeroservoelastic topics, including concepts, control, and estimation. It also features end-of-chapter exercises and examples with a MATLAB® based approach.

CRC Press
March 2023:566
Hb: 978-1-032-27609-0: £105
eBook: 978-1-003-29351-4

* For full contents and more information, visit: www.routledge.com/9781032276090

2ND EDITION

Aircraft Propulsion and Gas Turbine Engines



Ahmed F. El-Sayed

This edition exhibits major and minor changes compared with the first edition. Major changes include the addition of three new topics: namely, piston engines together with integrated propeller coverage, pumps, and rocket propulsion. Rocket propulsion has been added to serve courses that include aerospace topics as well as aircraft. The book is divided into three parts rather than two as in its first edition. The first two parts are devoted to air breathing engines, while the third part covers non-air breathing or rocket engines.

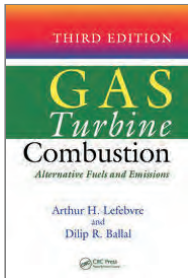
CRC Press
June 2017:1476
Hb: 978-1-466-59516-3: £165
eBook: 978-1-315-15674-3

* For full contents and more information, visit: www.routledge.com/9781466595163

3RD EDITION

Gas Turbine Combustion

Alternative Fuels and Emissions, Third Edition



Arthur H. Lefebvre, Dilip R. Ballal

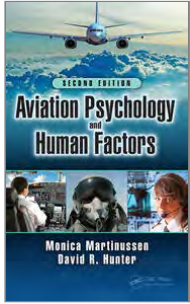
Reflecting the developments in gas turbine combustion technology that have occurred in the last decade, this third edition of a bestseller provides an up-to-date design manual and research reference on the design, manufacture, and operation of gas turbine combustors in applications ranging from aeronautical to power generation. Self-contained and only requiring a moderate amount of prior knowledge of physics and chemistry, the book covers aircraft engines and industrial gas turbines used in power generation. This edition discusses recent emissions regulations, explores how pollutants can be reduced, and includes a new chapter on alternative fuels and emissions.

CRC Press
April 2010:558
Hb: 978-1-420-08604-1: £210
eBook: 978-0-429-14104-1

* For full contents and more information, visit: www.routledge.com/9781420086041

2ND EDITION

Aviation Psychology and Human Factors



Monica Martinussen, David R. Hunter

This book covers the application of psychological principles and techniques to situations and problems of aviation. It offers an overview of the role psychology plays in aviation, system design, selection and training of pilots, characteristics of pilots, safety, and passenger behavior. It covers concepts of psychological research and data analysis and shows how these tools are used in the development of new psychological knowledge. The new edition offers material on physiological effects on pilot performance, a new chapter on aviation physiology, more material on fatigue, safety culture, mental health and safety, as well as practical examples and exercises after each chapter.

Routledge

May 2023:364

Hb: 978-1-498-75752-2: £120

Pb: 978-1-032-56983-3: £45.99

eBook: 978-1-315-15297-4

* For full contents and more information, visit: www.routledge.com/9781032569833

2ND EDITION

Fundamentals of International Aviation

**Suzanne K. Kearns***Series: Aviation Fundamentals*

International aviation is a massive and complex industry that is crucial to our global economy and way of life. Designed for the next generation of aviation professionals, this book flips the traditional approach to aviation education by introducing readers to the air transport sector on a global scale with a broad view of all the interconnected professional groups. This accessible and engaging new edition provides a foundation of industry awareness that will support a range of aviation careers. It also offers current air transport professionals an enriched understanding of the practices and challenges that make up the rich fabric of international aviation.

Routledge

March 2021: 504

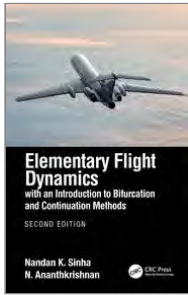
Hb: 978-0-367-46795-1: **£135**Pb: 978-0-367-46794-4: **£43.99**

eBook: 978-1-003-03115-4

* For full contents and more information, visit: www.routledge.com/9780367467944

2ND EDITION

Elementary Flight Dynamics with an Introduction to Bifurcation and Continuation Methods



Nandan K. Sinha, N. Ananthkrishnan

This book uses an optimal mix of physical insight and mathematical presentation to illustrate core concepts of professional aircraft flight dynamics. Updated version of the aerodynamic model is presented with the corrected definition of the rate (dynamic) derivatives, supported with examples of real-life airplanes and related data, supported by open-source computational tool. It introduces bifurcation and continuation methods as a tool for flight dynamic analysis. Second edition covers wind effects on aircraft modal dynamics and case studies of an airship dynamics, effects of morphing characteristics on the dynamic modes of a model rigid fixed-wing UAV with added data and solved examples.

CRC Press

September 2023:389

Hb: 978-0-367-56207-6: £115

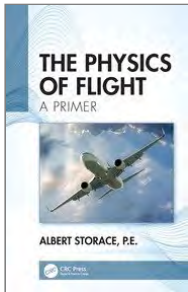
Pb: 978-0-367-56211-3: £54.99

eBook: 978-1-003-09680-1

* For full contents and more information, visit: www.routledge.com/9780367562113

The Physics of Flight

A Primer



Albert Sturace

The Physics of Flight provides a comprehensive explanatory reference on the basic physics of flight with a clear presentation of the underlying mathematics. It presents a momentum-based explanation of lift without using Bernoulli's theorem. The book is for undergraduate aviation and aerospace students taking courses in Flight Dynamics, Introduction to Flight, and Physics of Flight. Disproving misconceptions, such as identifying centrifugal force experienced in an airplane undergoing maneuvers as a fictitious force, the book does not attribute weightlessness during airplane pitch over or experienced in an airplane performing a parabolic flight path to the effects of free fall.

CRC Press

December 2023:84

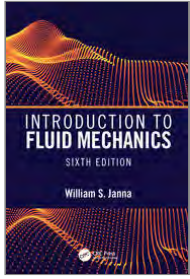
Hb: 978-1-032-48815-8: £82.99

eBook: 978-1-003-39091-6

* For full contents and more information, visit: www.routledge.com/9781032488158

6TH EDITION

Introduction to Fluid Mechanics, Sixth Edition

**William S. Janna**

Introduction to Fluid Mechanics, Sixth Edition, is intended for a first course in Fluid Mechanics, as taken by a range of engineering majors. Beginning with dimensions, units, and fluid properties, the text continues with explanation of key equations and coverage of the control-volume approach.

CRC Press

April 2020:754

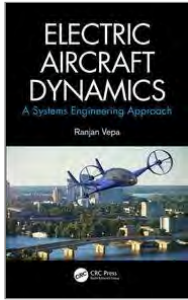
Hb: 978-0-367-34127-5: £155

eBook: 978-0-429-32453-6

* For full contents and more information, visit: www.routledge.com/9780367341275

Electric Aircraft Dynamics

A Systems Engineering Approach



Ranjan Vepa

This book surveys the engineering sciences that underpin the dynamics, control, monitoring, and design of electric propulsion systems for aircraft. It is structured to appeal to readers with a science and engineering background, and is modular in format. Taken as a whole, this ground-breaking text equips professional and student readers with a solid foundation for advanced work in this emerging field. The closely linked chapters present descriptive material and relevant mathematical modeling techniques, followed by numerous design exercises that cover the assembly of systems that deliver, synergistically, the desired performance outcomes.

CRC Press

January 2022:350

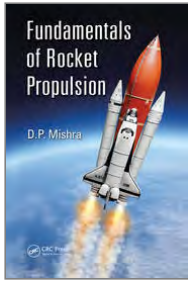
Hb: 978-0-367-19424-6: **£130**

Pb: 978-0-367-51358-0: **£51.99**

eBook: 978-0-429-20231-5

* For full contents and more information, visit: www.routledge.com/9780367513580

Fundamentals of Rocket Propulsion



DP Mishra

Designed and developed as an introductory text on the fundamental aspects of rocket propulsion, this textbook comprises of ten chapters ranging from brief introduction and elements of rocket propulsion, aerothermodynamics to solid, liquid and hybrid propellant rocket engines with chapter on electrical propulsion. Worked out examples are provided at the end of chapter for understanding uncertainty analysis and including solutions manual for instructors.

CRC Press

June 2020:482

Hb: 978-1-498-78535-8: **£115**

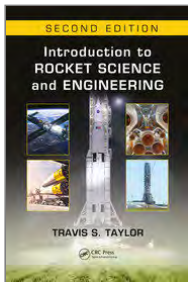
Pb: 978-0-367-57329-4: **£44.99**

eBook: 978-1-315-17599-7

* For full contents and more information, visit: www.routledge.com/9780367573294

2ND EDITION

Introduction to Rocket Science and Engineering



Travis S. Taylor

Introduction to Rocket Science and Engineering, Second Edition, presents the history and basics of rocket science, and examines design, experimentation, testing, and applications. Exploring how rockets work, the book covers the concepts of thrust, momentum, impulse, and the rocket equation, along with the rocket engine, its components, and the physics involved in the generation of the propulsive force. The text also presents several different types of rocket engines and discusses the testing of rocket components, subsystems, systems, and complete products. The final chapter stresses the importance for rocket scientists and engineers to creatively deal with the complexities of rocketry.

CRC Press

July 2017:352

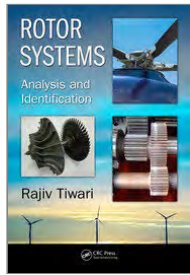
Hb: 978-1-498-77232-7: **£105**

eBook: 978-1-315-12095-9

* For full contents and more information, visit: www.routledge.com/9781498772327

Rotor Systems

Analysis and Identification



Rajiv Tiwari

With focus on understanding of rotor dynamics, the book starts with introductory material for finite element methods and moves to linear and non-linear vibrations, continuous systems, vibration measurement techniques, signal processing and error analysis, general identification techniques in engineering systems, including MATLAB analysis of simple rotors.

CRC Press

December 2017:1092

Hb: 978-1-138-03628-4: £175

eBook: 978-1-315-23096-2

* For full contents and more information, visit: www.routledge.com/9781138036284

An Introduction to the Spaceport Industry

Runways to Space



Janet K. Tinoco, Chunyan Yu, Diane Howard, Ruth E. Stilwell

Through case and event studies, research and analysis, along with information obtained through professional experience, this book provides an overview of the many benefits, unique challenges, and issues facing commercial spaceports and spaceport operators. Each chapter is a stand-alone key topic such that the reader can focus on the most compelling issues relevant for him/her or can view the book as an integrated whole for a full perspective. While examples and case studies come largely from the United States, the reader can draw conclusions that are independent of country and situation.

Routledge

July 2020:234

Hb: 978-0-815-34885-6: **£130**

Pb: 978-0-815-34887-0: **£34.99**

eBook: 978-1-351-16584-6

* For full contents and more information, visit: www.routledge.com/9780815348870

Resilient Space Systems Design

An Introduction



Ron Burch

Presenting a fundamental definition of resilience, the book examines the concept of resilience as it relates to space system design. The book establishes the required definitions, relates its place to existing state-of-the-art systems engineering practices, and explains the exact process and mathematical tools used to achieve a resilient design. The book begins with space systems basics prior to exploring the details of resilience, and does not assume that the reader has an extensive background in the subject matter of resilience. Engineers and architects in the areas of aerospace, space systems, and space communications will be most interested in the content.

CRC Press

September 2019:192

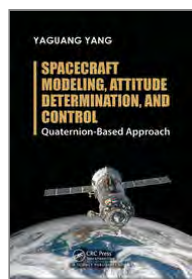
Hb: 978-0-367-14848-5: £105

eBook: 978-0-429-05360-3

* For full contents and more information, visit: www.routledge.com/9780367148485

Spacecraft Modeling, Attitude Determination, and Control

Quaternion-Based Approach



Yaguang Yang

This book discusses all spacecraft attitude control related topics: spacecraft (including attitude measurements, actuator, and disturbance torques) modeling, spacecraft attitude determination and estimation, and spacecraft attitude controls. Unlike other books addressing the same topics, this one focuses on quaternion-based methods because of the many merits of quaternion-based models. The book also presents a brief, but necessary, background on rotation sequence representations and frequently used reference frames that form the foundation of spacecraft attitude description.

CRC Press

March 2021:340

Hb: 978-1-138-33150-1: £170

Pb: 978-0-367-78035-7: £48.99

eBook: 978-0-429-44658-0

* For full contents and more information, visit: www.routledge.com/9780367780357

2ND EDITION

Spacecraft Power Systems



Mukund R. Patel, Omid Beik

Spacecraft Power Systems presents comprehensive coverage of the fundamentals, design-trades, components, controls, and operations of spacecraft power systems. With new and updated chapters, sections, and discussions, the second edition covers current high-voltage MW-scale electric propulsion, updated PV and battery systems, spacecraft power components, and power electronics. The book is intended for senior undergraduate and graduate mechanical, aerospace, and electrical engineering students taking courses in Space Systems, Space Engineering, and Spacecraft Power Systems.

CRC Press

December 2023:362

Hb: 978-1-032-38348-4: £150

eBook: 978-1-003-34460-5

* For full contents and more information, visit: www.routledge.com/9781032383484

Towards Sustainable Aviation



Edited by **Paul Upham, Janet Maughan, David Raper, Callum Thomas**

First Published in 2003. Routledge is an imprint of Taylor & Francis, an informa company.

Routledge

February 2003:270

Hb: 978-1-853-83817-0: **£140**

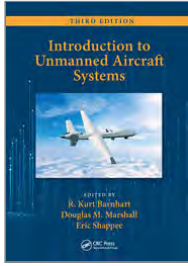
Pb: 978-1-853-83818-7: **£36.99**

eBook: 978-1-849-77340-9

* For **full contents** and more information, visit: www.routledge.com/9781853838187

3RD EDITION

Introduction to Unmanned Aircraft Systems



Edited by **R. Kurt Barnhart, Douglas M. Marshall, Eric Shappee**

Featuring chapters by leading experts, this fully updated bestseller fills the need for an accessible and effective university textbook. Focussing on the civilian applications of UAS, the text begins with an historical overview of unmanned aerial vehicles, and proceeds to examine each major UAS subsystem. Its combination of understandable technical coverage and up-to-date information on policy and regulation makes the text appropriate for both Aerospace Engineering and Aviation programs.

CRC Press

March 2021:524

Hb: 978-0-367-36659-9: £120

eBook: 978-0-429-34749-8

* For full contents and more information, visit: www.routledge.com/9780367366599

	Systems Engineering for Commercial Aircraft . . .	8
A.		
Advanced Flight Dynamics with Elements of Flight Control	12	
Aerodynamics Principles for Air Transport Pilots	2	
Aerospace Project Management Handbook	3	
Aircraft Communications and Navigation Systems	9	
Aircraft Design Concepts	13	
Aircraft Digital Electronic and Computer Systems	11	
Aircraft Performance	5	
Aircraft Propulsion and Gas Turbine Engines	14	
An Introduction to the Spaceport Industry	22	
Aviation Psychology and Human Factors	15	
C.		
Control Systems	11	
Crew Resource Management Training	10	
E.		
Electric Aircraft Dynamics	19	
Elementary Flight Dynamics with an Introduction to Bifurcation and Continuation Methods	17	
F.		
Flight Dynamics, Simulation, and Control	12	
Flight Mechanics Modeling and Analysis	13	
Foreign Object Debris and Damage in Aviation	6	
Fundamentals of International Aviation	16	
Fundamentals of Rocket Propulsion	20	
G.		
Gas Turbine Combustion	14	
H.		
Human Factors Impacts in Air Traffic Management	4	
I.		
Introduction to Fluid Mechanics, Sixth Edition	18	
Introduction to Rocket Science and Engineering	20	
Introduction to Unmanned Aircraft Systems	25	
R.		
Resilient Space Systems Design	23	
Rotor Systems	21	
S.		
Safety Management Systems in Aviation	7	
Situation Assessment in Aviation	7	
Spacecraft Modeling, Attitude Determination, and Control	23	
Spacecraft Power Systems	23	
T.		
The Physics of Flight	17	
Towards Sustainable Aviation	24	

	Tooley, Wyatt	9
B.		
Barnhart, Marshall, Shappee		25
Burch		23
D.		
Darrin, Stadter	3	
Davies	2	
DeLaurier	13	
E.		
El-Sayed	6	
El-Sayed	14	
J.		
Jackson	8	
Janna	18	
K.		
Kearns	16	
Kirwan, Rodgers	4	
L.		
Lefebvre, Ballal	14	
M.		
MacLeod	10	
Martinussen, Hunter	15	
Mishra	20	
P.		
Patel, Beik	23	
R.		
Raol, Ayyagari	11	
Raol, Kashyap, Shrinivasan	7	
Raol, Singh	13	
S.		
Sadraey	5	
Sinha, Ananthkrishnan	17	
Sinha, Ananthkrishnan	12	
Stolzer, Sumwalt, Goglia	7	
Storace	17	
T.		
Taylor	20	
Tinoco, Yu, Howard, Stilwell	22	
Tiwari	21	
Tooley	11	
U.		
Upham, Maughan, Raper, Thomas		24
V.		
Vepa	12	
Vepa	19	
Y.		
Yang		23

