Library Reading Guidance

DaLian Nationalities University Library

Volume 3, No.1, 2013 March, 2013

Aircraft Performance and Design

John D. Anderson,Jr.

WCB McGraw-Hill, 1999
ISBN: 978-0-07-001971-3(hbk.)
Call Number: V22/A545

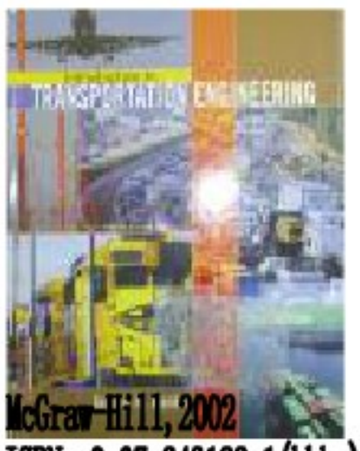
This exciting new book provides readers with a unique, integrated approach to aircraft performance and design. Intended as a text for the first course in airplane performance, Dr. Anderson's coverage of design philosophy and methodology conveys how working engineers achieve performance standards.

Part I of the book provides the needed background material, including overviews of aerodynamics and propulsion, and historical information. Part II deals with static and accelerated aircraft performance and equations of motion, with both graphical and analytical solution techniques. "Design Cameos" are included in the first two parts to emphasize the role and importance of engineering design techniques. Part III covers design methodologies, illustrated by historical examples throughout, and can be used for the first part of a senior design course.

Introduction to Transportation Engineering

Second Edition

James H. Banks



McGraw-Hill, 2002
ISBN: 0-07-243188-1(hbk.)
Call Number: U1/B218-2

The second edition of ***Introduction to Transportation Engineering*** has been developed to provide a concise yet through introduction to intermodal transportation. One of its underlying concepts is that the basic techniques and principles of transportation engineering are of wide application. For practical reasons, the major emphasis is often on highways, but care is taken to show how basic concepts and techniques apply to different modes. The book strives to provide a background in transportation planning, analysis, and design while emphasizing the social, economic, and political context of transportation engineering. It places major emphasis on important practical topics such as geometric design, *Highway Capacity Manual* methods, and traffic signal timing, and also emphasizes important theoretical topics such as the fundamental techniques of traffic analysis and the economics theory underlying transportation demand modeling.

The text has been revised and updated to reflect the 2000 revision of the *Highway Capacity Manual.* The text also offers new open-ended design exercises pertaining to common design problems in transportation such as horizontal and vertical alignment of roads, railways, or runways; traffic design for highways; planning and design of traffic control; and design of bus routes and schedules.

Handbook of Double Containment Piping Systems

Christopher G. Ziu,P.E

McGraw-Hill, Inc., 1995
ISBN: 0-07-0703012-1(hbk.)
Call Number: U17/Z64

Here in one comprehensive handbook is clear, authoritative information on the design, layout, installation, and maintenance of the double containment piping systems required by law for covering hazardous chemicals and petrochemicals. This unique reference will help you determine when secondary containment is needed, what the various alternatives are, and how to develop a realistic cost estimate for a complete system.

You'll find coverage of aboveground and underground pressure piping … process sewer systems … acid waste piping… emergency spill containment piping… landfill piping… and fuel oil, gasoline station, and jet fuel piping. Also included is a comprehensive section on codes and laws that need to be considered, together with directions on where to access the information.

Handbook of Double Containment Piping Systems features novel techniques for dealing with thermal expansion and contraction… "trenchless" or "no-dig" methods for retrofitting underground systems… innovative ways of managing storage tanks and leak detection… and new information on the chemical resistance of materials. If you're a piping engineer or designer, this unique reference will provide everything you need to know about state-of-the-art double containment piping systems for virtually every type of application.

Open Channel Hydraulics

Terry W. Sturm

McGraw-Hill, 2001
ISBN: 978-0-07-062445-0(hbk.)
Call Number: TV133/S935

Open channel Hydraulics is intended for advanced undergraduates and first-year graduate students in the general fields of water resources and environmental engineering. The purpose of the text is to present modern numerical techniques for the solution of open channel flow problems in the current personal computing environment, as well as to emphasize recent experimental results and their application in free surface flows. In addition, focus is placed on the application of basic principles of fluid mechanics to the formulation of open channel flow problems so that assumptions and limitations of existing numerical models are made clear.

The combination of theoretical, experimental, and numerical techniques applied to open channel flow provides a synthesis that has become the hallmark of modern fluid mechanics.

Key features of this first edition include:

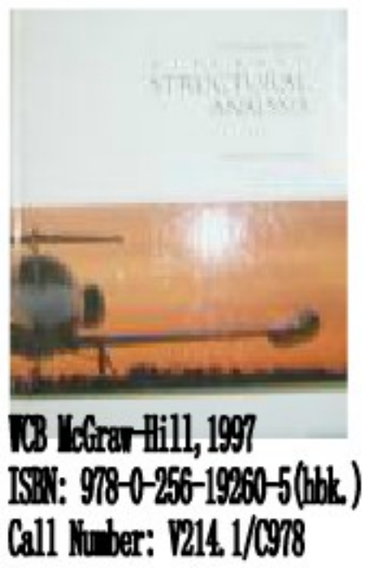
• The book is a useful addition to any consulting engineer's library, as well as a practical textbook on the fundamentals of open channel flow.

• Each chapter contains worked-out example problems to aid in the understanding of the text material. Wherever possible, solutions are given in dimensionless form in graphs to promote an intuitive fell of the physics of the problem.

• At the end of each chapter , exercises are presented that involve application of the material previously learned and encourage student exploration of further ramifications of the text material.

Fundamentals of Aircraft Structural Analysis

Howard D. Curtis

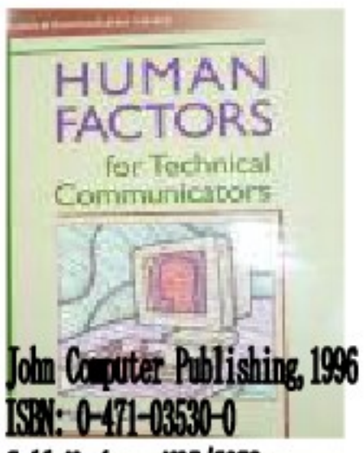


This book is not a design manual. It is a text on the elements of aircraft structural analysis written for the undergraduate student who has little or no previous exposure to the subject. This book has included the theory required for understanding linear, static structural behavior and the classical methods of analysis. It is my experience that students learn the fine points of theory by seeing it applied to practical problems. Therefore, numerous worked-out examples are found throughout the book, and they are a reflection of my "teach by example" classroom methodology.

Modern computational structures technology places powerful tools in the hands of today's structural designers and analysis. Some may argue that methods and approximations designed for hand computations have been rendered obsolete and have no place in a modern curriculum. My contention is that we must imbue the undergraduate engineering student with the basics. Teaching simplified procedures and idealizations is appropriate if it fosters understanding and provides a springboard to advanced concepts. I encourage the creative use of commercial computer packages in parallel with the topics in this text. On the other hand, I discourage students' from becoming dependent solely on canned software to solve problems they should be able to do with (at most) the aid of a hand-held calculator. The fact remains that students need to master neither statics nor algebra in order to mouse-click their way through sophisticated structural analyses on menu-driven desktop computers.

Human Factors for Technical Communicators

Marlance Coe



This book is for anyone who designs, writes, edits, or technical information. It is also for managers and other decision makers whose ultimate responsibility is quality technical communication.

I structured this book around examples, extended examples, and problem-solving scenarios. The human-factors approach to technical communication is a four-part process of designing and developing user-oriented information:

1. Understand the psychological and physical sensory and perceptual process users employ to access information. 2. Create dynamic, robust user partnerships to design and develop information. 3. Build a strong, user-centered subtext to carry the text of information. 4. Design and develop user-oriented text.

The following is roadmap to the topics in this book. You may use this book sequentially or in a random-access fashion. However, there are threads of themes and examples that run throughput the book. Used sequentially, this book provides a solid technical-communication human-factors learning experience for either the newcomer to the technical profession or the seasoned professional. Used in a random-access fashion, the book serves as a human factors reference.

Math Refresher for Scientsits and Engineers

Second Edition

John R. Fanchi

Whether you need to understand advances in modern technology, prepare for professional exams, or simply brush up on skills acquired long ago, John Fanchi's quick reference guide to applied math is for you. He has updated his 1997 book to include probability and statistics in new chapters with exercises and solutions. Fanchi explains all topics clearly and methodically, from the ground up. He begins with straightforward concepts in college math and gradually progresses to more advanced topics, using practical applications throughout to demonstrate relationships between different areas. The wealth of numerical methods and illustrative examples further enhances the utility of this truly indispensable book. ***Math Refresher for Scientists and Engineers, Second Edition*** reviews:

- Algebra
- Geometry, analytic geometry, trigonometry, and hyperbolic functions
- Vectors, matrices, and linear algebra
- Differential calculus, integral calculus, and special integrals
- Partial derivatives
- Ordinary differential equations and ODE solution techniques
- Partial differential equations

A History of Science in Society: from Philosophy to Utility

Volume II

By Andrew Ede and Lesley B. Cormack

Science has transformed human history. It has changed how we see the universe, how we interact with nature and each other, and how we like our lives. It may, in the future, even change what it means to be human. The history of such a powerful force deserves a full and multi-faced examination. Yet a history of science is unlike a history of monarchs, generals, steam engines, or wars because science isn't person, an object, or an event. It is an idea, the idea that humans can understand the physical world.

A History of Science in Society: from Philosophy to Utility is a concise overview that introduces complex ideas in a non-technical fashion without sacrificing the sophistication and richness of the subject. Andrew Ede and Lesley B. Cormack trace the history of science through its continually changing place in society and explore the link between the pursuit of knowledge and the desire to make that knowledge useful. Volume II begins with the work of Sir Isaac Newton and ends with nanotechnology, bucky balls, and the patenting of genes.

Along the way, they discuss the specifics of scientific investigation and discovery. Among the may topics discussed are issues such as intellectual competition, gender and class, the economics exploitation of knowledge, and changing ideas about the environment and our relationship to it.