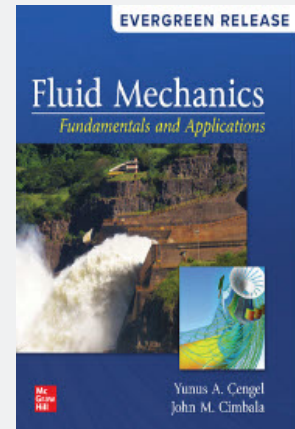




Fluid Mechanics: Fundamentals and Applications

Yunus Cengel | John Cimbala
2024 Release



Overview

Cengel and Cimbala's *Fluid Mechanics Fundamentals and Applications* communicates directly with tomorrow's engineers in a simple yet precise manner, while covering the basic principles and equations of fluid mechanics in the context of numerous and diverse real-world engineering examples. The text helps students develop an intuitive understanding of fluid mechanics by emphasizing the physics, using figures, numerous photographs, and visual aids to reinforce the physics. The highly visual approach enhances the learning of fluid mechanics for students.

Writing Style

Student-Centered. Clear Explanations & Examples.

Course Level

Fluid Mechanics

Duration of Course

1 or 2-Semester

What You Need to Know

Numerous Worked-Out Examples

Available in all chapters, worked-out examples clarify the material and illustrate the use of the basic principles using an intuitive and systematic approach.

Application Spotlights

Highlighted throughout the text and written by guest authors. Show how fluid mechanics have diverse applications in a wide variety of fields. Include eye-catching photographs.

Real-World End-of-Chapter Questions

Include Concept Questions, Review Problems, Design and Essay Problems, and Fundamentals of Engineering (FE) Exam Problems.

Computational Fluid Dynamics

A separate chapter to equip students with an understanding of how CFD codes are used in the design and analysis of flow systems. Examples generated by CFD are included throughout the book.

Table of Contents

1. Introduction and Basic Concepts
2. Properties of Fluids
3. Pressure and Fluid Statics
4. Fluid Kinematics
5. Bernoulli and Energy Equations
6. Momentum Analysis of Flow Systems
7. Dimensional Analysis and Modeling
8. Internal Flow
9. Differential Analysis of Fluid Flow
10. Approximate Solutions of the Navier-Stokes Equation
11. External Flow: Drag and Lift
12. Compressible Flow
13. Open-Channel Flow
14. Turbomachinery
15. Introduction to Computational Fluid Dynamics
- Appendix 1- Property Tables and Charts (SI Units)
- Appendix 2- Property Tables and Charts (English Units)

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This Title Has Gone Evergreen

This title is transitioning to an evergreen delivery model. This means you will have the most relevant and up-to-date content, tools, and accessibility delivered directly to your existing McGraw Hill Connect® course, all without switching editions or building a new course from scratch. If you use McGraw Hill eBook your content will be updated automatically. Please talk to your representative about your options if you require a print component.

A complete list of Release Notes for this title is available within your Connect course at connect.mheducation.com

Big Picture Changes in This Release

Connect Enhancements

Includes the addition of Application Based Activities (ABAs). These assignable exercises boost engagement and allow students to apply concepts learned to real-world scenarios. Each ABA involves the application of multiple topics providing the ability to synthesize information and use critical-thinking skills. Example topics include Major and Minor Losses in Pipes, Conservation of Mass: Density Changes, Pressure Distribution Tank, and more.

Text Updates

Please see Release Notes for details.



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