



Basic Engineering  
Series and Tools

# BEST Chance of Success in Introduction to Engineering



**Mc  
Graw  
Hill**





# Give Your Students the BEST Chance of Success in Introduction to Engineering

McGraw Hill's Basic Engineering Series and Tools (BEST) is a collection of 7 different market-leading titles, 100+ engineering topics, and premium digital content designed to orient beginning engineering students to the professional and academic skills needed to succeed.

The BEST Collection allows you to choose a traditional text solution or to build customized content to fit your course.

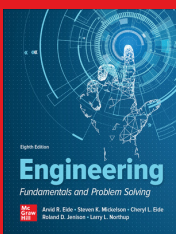
## Custom Content is Available in 3 Ways:

- ✓ **Create** – use our “book builder” website for customized print or eBook formats.
- ✓ **Connect** – select customized digital content through our online learning platform, including digital resources for homework, practice, and assessment.
- ✓ **Combined** – create a customized text (print or eBook), and add customized digital content through Connect.



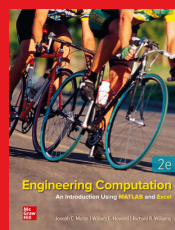
# BEST Collection 7 Market Leading Titles

Choose One Title OR Create Your Own Custom Mash Up—  
Available in Print or eBook



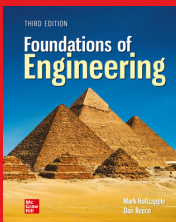
## Engineering Fundamentals and Problem Solving, 8th Edition

Arvid Eide, Steven Mickelson, Roland Jenison, and Larry Northup



## Engineering Computation: An Introduction Using MATLAB and Excel, 2nd Edition

Joseph Musto, William Howard, and Richard Williams



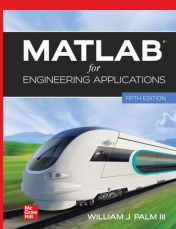
## Foundations of Engineering, 3rd Edition

Mark Holtzapple and W. Reece



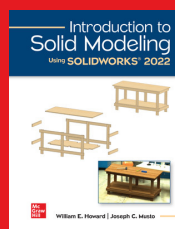
## Spreadsheet Tools for Engineers Using Excel, 4th Edition

Byron Gottfried



## MATLAB for Engineering Applications, 5th Edition

William Palm



## Introduction to Solid Modeling Using SOLIDWORKS, Annual Edition

William Howard and Joseph Musto



## Technical Writing for Engineers & Scientists, 4th Edition

Leo Finkelstein, Jeanine Elise Aune, and Leslie A. Potter

**Your Own Content – Add Custom Content to Any Text**

# BEST Collection Premium Digital Content

Pair Digital Content with Your Custom Create Text OR Select from Content Listed Below

## 2 SmartBooks:

- *Engineering Fundamentals and Problem Solving*, 8th Edition by Arvid Eide, Steven Mickelson, Roland Jenison, and Larry Northup
- *Foundations of Engineering*, 3rd Edition by Mark Holtzapple and W. Reece

## 3 eBooks:

### eBook 1 - Engineering Fundamentals Containing:

- *Engineering Fundamentals and Problem Solving*, 8th Edition by Arvid Eide, Steven Mickelson, Roland Jenison, and Larry Northup
- *Foundations of Engineering*, 3rd Edition by Mark Holtzapple and W. Reece

### eBook 2 - Engineering Computational Tools Containing:

- *MATLAB for Engineering Applications*, 5th Edition by William Palm
- *Engineering Computation: An Introduction Using MATLAB and Excel*, 2nd Edition by Joseph Musto, William Howard, and Richard Williams
- *Spreadsheet Tools for Engineers Using Excel*, 4th Edition by Byron Gottfried
- *Introduction to Solid Modeling Using SOLIDWORKS*, Annual Edition by William Howard and Joseph Musto

### eBook 3 - Engineering Technical Writing & Communication Containing:

- *Technical Writing for Engineers & Scientists*, 4th Edition by Leo Finkelstein, Jeanine Elise Aune, and Leslie A. Potter

## Auto-Graded Curated Question Bank Covering 100+ Topics

- |                            |                                      |
|----------------------------|--------------------------------------|
| ■ Engineering Fundamentals | ■ Engineering Graphics               |
| ■ Engineering Basics       | ■ Communications                     |
| ■ Computational Tools      | ■ Engineering Management & Economics |

# BEST Collection Homework, Practice, and Assessment Activities

## Assign Digital Tools and Resources—Available through Connect

McGraw Hill's Connect provides digital content with auto-graded assessment, an adaptive reading experience, eBooks, adaptive math prep modules, and interactive application-based activities.

\*Digital content tools and resources differ for each title. Check with your representative for specific resources related to your selections.



**SmartBook** – an adaptive learning and reading experience designed to introduce terminology and general concepts.

**ReadAnywere App** – a free App that gives students access to their eBook anywhere, even offline, on their smartphone or tablet.

**Adaptive Prep Modules** – assignment modules that provide a refresher of prerequisite topics.

**Application-Based Activities** – interactive exercises that provide real-world situations for lecture topics.

**Algo EOC** – curated banks of assignable questions for practice, graded homework, or assessment. Includes a variety of special topics and the ability to create your own questions.

**Writing Rubrics** – a sample grading rubrics to help simplify grading and to help students understand writing expectations in 5 different genres.

**Tegrity** – a video capture solution that drives student engagement in traditional, flipped, hybrid, or fully online courses. The free Tegrity Mobile app allows students to download and listen to recorded lectures on their mobile phone or tablet anytime, anywhere - even offline.

**LMS Integration** – easily pair Connect assignments to your campus LMS for seamless integration.

## Track Student Progress with Connect Reports

**At-Risk-Student Report** – helps you identify students who are falling behind or struggling in your class.

**Grade Reporting and Insight** – displays how your class is performing on any specific assignment, topic, question, or learning objective.

**Category Analysis Reports** – learn how your students are performing relative to specific course learning objectives, Bloom's taxonomy, key course challenges, or custom criteria within an assignment.

**Student Performance Reports** – search for a specific student and uncover their challenges, study habits, and grade details.

**SmartBook Reports** – provides insight into student engagement with the text, including identifying the most challenging learning objectives. Allows instructors to focus lectures on what students need help with the most.

## Protect Academic Integrity

**Proctorio** – remote proctoring and browser locking capabilities within Connect. Proctorio ensures fairness for test-takers by increasing accountability, securing exam content, deterring cheating, and promoting a culture of integrity while improving learning outcomes.



# Creating Your Own BEST Solution Is as Easy as 1, 2, 3

## 1. Choose Your Content

- ☐ Choose one title or a mash up from 7 market-leading titles based on your unique freshman engineering course objectives.
- ☐ Add your own content to a print or digital text.



Create:

[create.mheducation.com/createonline/index.html#find-content](https://create.mheducation.com/createonline/index.html#find-content)



Connect:

[mheducation.com/connect](https://mheducation.com/connect)

## 2. Choose Your Delivery

- ☐ Print or eBook.
- ☐ Your standard text or customized content can be delivered any way you like.

## 3. Choose Your Package

- ☐ Save time grading when you add Connect, McGraw Hill's online homework system.
- ☐ Pair Connect with your LMS for easy integration.



# Which Title(s) Fit Your Course BEST?

## Table of Contents

### Engineering Fundamentals and Problem Solving, 8th Edition

Arvid Eide, Steven Mickelson, Roland Jenison  
and Larry Northup

1. The Engineering Profession
2. Education for Engineering
3. Introduction to Engineering Design
4. Engineering Solutions
5. Representation of Technical Information
6. Engineering Measurements and Estimations
7. Dimensions, Units, and Conversions
8. Introduction to Engineering Economics
9. Economics: Decision Making
10. Statistics
11. Inferential Statistics and Decision Making
12. Mechanics: Statics
13. Mechanics: Strength of Materials
14. Material Balance
15. Energy Sources and Alternatives
16. Fundamental Energy Principles
17. Electrical Theory
18. Flowcharts

### Foundations of Engineering, 3rd Edition

Mark Holtzapple and W. Reece

1. The Engineer
2. Engineering Ethics
3. Problem Solving
4. Understanding and Using Computers
5. Introduction to Design
6. Engineering Communications
7. Numbers

8. Tables and Graphs
9. Statistics
10. Newton's Laws
11. Introduction to Thermodynamics
12. Introduction to Rate Processes
13. SI System of Units
14. Unit Conversions
15. Introduction to Statics and Dynamics
16. Introduction to Electricity
17. Accounting
18. Accounting for Mass
19. Accounting for Charge
20. Accounting for Linear Momentum
21. Accounting for Angular Momentum
22. Accounting for Energy
23. Accounting for Entropy
24. Accounting for Money

### MATLAB for Engineering Applications, 5th Edition

William Palm

1. An Overview of MATLAB
2. Numeric, Cell, and Structure Arrays
3. Functions
4. Programming with MATLAB
5. Advanced Plotting
6. Model Building and Regression
7. Statistics, Probability, and Interpolation
8. Linear Algebraic Equations
9. Numerical Methods for Calculus and Differential Equations
10. Simulink
11. Symbolic Processing with MATLAB
12. Projects with MATLAB

### Technical Writing for Engineers & Scientists, 4th Edition

Leo Finkelstein, Jeanine Elise Aune,  
and Leslie A. Potter

1. Introduction
2. Ethical Considerations
3. Note-taking
4. Technical Definition
5. Description of a Mechanism

6. Description of a Process
7. Instructions and Manuals
8. Proposals
9. Progress Reports
10. Feasibility and Recommendation Reports
11. Laboratory and Project Reports
12. Research Reports
13. A3 Reports
14. Abstracts and Summaries
15. Style and Mechanics
16. Documentation
17. Visuals
18. Presentations
19. Business Communication
20. Communications with Future Employers  
(aka, Getting a Job)
21. Team Writing

## **Engineering Computation: An Introduction Using MATLAB and Excel, 2nd Edition**

Joseph Musto, William Howard,  
and Richard Williams

### **PART 1**

Chapter 1: Computing Tools

Chapter 2: Excel Fundamentals

Chapter 3: MATLAB Fundamentals

Chapter 4: MATLAB Programming

Chapter 5: Plotting Data

### **PART 2**

Chapter 6: Finding the Roots of Equations

Chapter 7: Matrix Mathematics

Chapter 8: Solving Simultaneous Equations

Chapter 9: Numerical Integration

Chapter 10: Optimization

## **Spreadsheet Tools for Engineers Using Excel, 4th Edition**

Byron Gottfried

1. Engineering Analysis and Spreadsheets
2. Creating an Excel Worksheet
3. Editing an Excel Worksheet

4. Making Logical Decisions (IF-THEN-ELSE)
5. Graphing Data
6. Analyzing Data Statistically
7. Fitting Equations to Data
8. Sorting and Filtering Data
9. Transferring Data
10. Converting Units
11. Solving Single Equations
12. Solving Simultaneous Equations
13. Evaluating Integrals
14. Creating and Executing Macros and Functions
15. Comparing Economic Alternatives
16. Finding Optimum Solutions

## **Introduction to Solid Modeling Using SOLIDWORKS, Annual Edition**

William Howard and Joseph Musto

### **PART 1: Learning SOLIDWORKS**

1. Basic Part Modeling Techniques
2. Engineering Drawings
3. Additional Part Modeling Techniques
4. Advanced Part Modeling
5. Parametric Modeling Techniques
6. Creation of Assembly Models
7. Advanced Assembly Operations
8. Assembly Drawings

### **PART 2: Applications of SOLIDWORKS**

9. Generation of 2-D Layouts
10. Solution of Vector Problems
11. Analysis of Mechanisms
12. Design of Molds and Sheet Metal Parts
13. The Use of SOLIDWORKS to Accelerate the Product Development Cycle
14. Appendix
  - A. Recommended Settings
  - B. The SOLIDWORKS Interface:  
Use and Customization









# You're Not Alone on This Journey – We Offer the BEST Support

## Support at Every Step

Supporting our customers isn't *what* we do. It's *who* we are.

From personalized training to top-notch resources, our entire team is committed to your success. We invest in our support team so they can better support you!

Our **Implementation Team** provides 1-1 support. They are certified in the **OLC Quality in Online Learning Standards** and can help you design your own course.

In addition to our Implementation Team, our **Customer Experience Group** (tech support) is second to none. They provide world-class support 24 hours a day.

[mheducation.com/highered/support](https://mheducation.com/highered/support)





Basic Engineering  
Series and Tools

# BEST Collection in Engineering

To learn more about McGraw Hill BEST Collection in Create,  
please visit:

[createwp.customer.mheducation.com/wordpress-mu/best](http://createwp.customer.mheducation.com/wordpress-mu/best)

For more information about McGraw Hill, please visit:

[bit.ly/mcgrawhillengineering](http://bit.ly/mcgrawhillengineering)