

McGraw Hill Engineering



Powered by Connect Engineering, McGraw Hill’s resources are designed to help students achieve success in a click. Resources are powered by Connect Engineering, an easy-to-use learning platform that gives instructors access to engaging, assignable and assessable tools. All these tools are tied to learning objectives that support student success and help get students to make positive behavior changes in their lives.

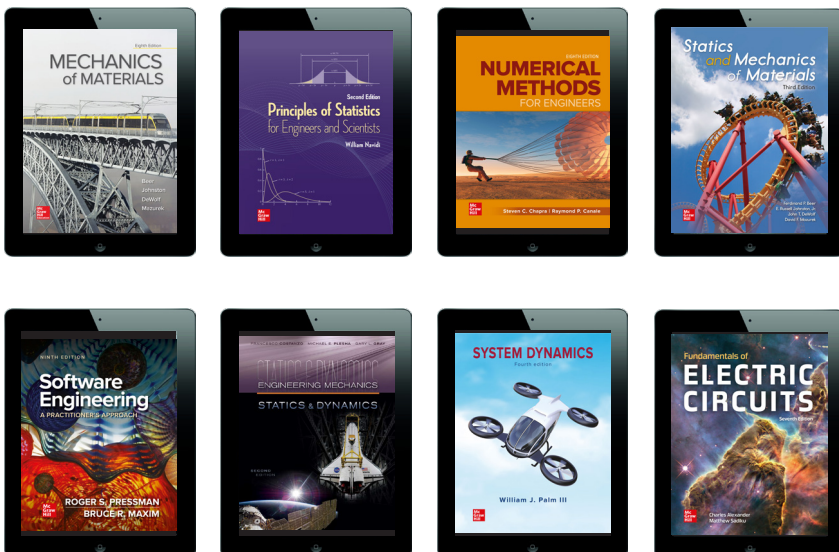


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What is Connect?

Connect is a solution that fits your teaching style, empowering you to teach the way that works best for you and your students. Its flexibility allows you to create, edit, upload, share, and adjust materials to meet your needs. Connect also integrates with the three major learning management systems: Blackboard, D2L, and Canvas. We work to give you and your students access to registration, attendance, assignments, grades, and course resources in real time, in one location.

Homework & Adaptive Learning

- Contextualized assignments
- SmartBook
- Time-saving tools
- Customized to individual needs

Robust Analytics & Reporting

- Easy-to-read reports
- Individual and class performance data
- Auto grading



Quality Content & Learning Resources

- eBooks available offline
- Custom course content
- Resource library
- Consolidated resources
- Easy course Sharing
- Customized to-do list and calendar
- Lecture capture

Trusted Services & Support

- Seamless LMS integration
- Training
- In-product help and tutorials
- 1:1 or group help

SmartBook Adaptive Ebook

Available within McGraw Hill Connect[®], SmartBook[®] makes study time as productive and efficient as possible. It identifies and closes knowledge gaps through a continually-adapting reading experience. The student's knowledge and self-reported confidence enables SmartBook to provide each student with long-term retention solutions. Focusing on closing knowledge gaps and long-term retention ensures that every minute spent with SmartBook is returned to the student as a value-added minute.

Which of the following is the easier equation to find the horizontal reaction force component at A shown in the given figure?

Click the answer you think is right.

- Take $\sum F_x = 0$
- Take $\sum M_A = 0$
- Take $\sum M_B = 0$
- Take $\sum F_y = 0$

Do you know the answer?

I know it Think so Unsure

Read about this

Yellow highlighting provides students with just-in-time learning, focusing on the critical concepts and topics within the chapter.

4.1B Rigid-Body Equilibrium in Two Dimensions

The conditions stated in Sec. 4.1A for the equilibrium of a rigid body become considerably simpler for the case of a two-dimensional structure. Choosing the x and y axes to be in the plane of the structure, we have

$$F_x = 0 \quad M_x = M_y = 0 \quad M_z = M_x$$

for each of the forces applied to the structure. Thus, the six equations of equilibrium stated in Sec. 4.1 reduce to three equations:

$$\sum F_x = 0 \quad \sum F_y = 0 \quad \sum M_A = 0 \quad (4.4)$$

Since $\sum M_A = 0$ must be satisfied regardless of the choice of the origin O , we can write the equations of equilibrium for a two-dimensional structure in the more general form

Equations of equilibrium in two dimensions:

$$\sum F_x = 0 \quad \sum F_y = 0 \quad \sum M_A = 0 \quad (4.5)$$

where A is any point in the plane of the structure. These three equations can be solved for no more than three unknowns.

You have just seen that unknown forces include reactions and that the number of unknowns corresponding to a given reaction depends upon the type of support or connection causing that reaction. Referring to Fig. 4.1, note that you can use the equilibrium equations (4.5) to determine the reactions associated with two rollers and one cable, or one fixed support, or one roller and one pin in a fitted hole, etc.

For example, consider Fig. 4.2a, in which the truss shown is in equilibrium and is subjected to the given forces P , Q , and S . The truss is held in place by a pin at A and a roller at B . The pin prevents point A from moving by exerting a force on the truss that can be resolved into the components A_x and A_y . The roller keeps the truss from rotating about A by exerting the vertical force B . The free-body diagram of the truss is shown in Fig. 4.2b; it includes the reactions A_x , A_y , and B as well as the applied forces P , Q , and S (in x and y component form) and the weight W of the truss.

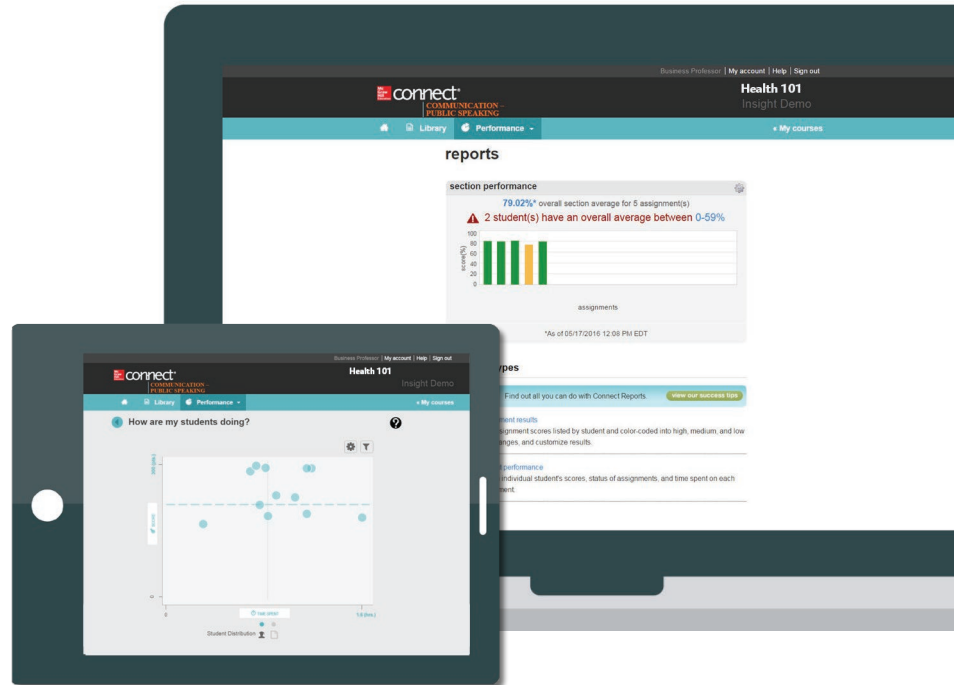
Since the truss is in equilibrium, the sum of the moments about A of all of the forces shown in Fig. 4.2b is zero, or $\sum M_A = 0$. We can use

Probing questions help students check their knowledge and confidence, and hone in on the concepts they don't understand to improve their performance.

Connect Reports

Student Performance

Connect Reports keep instructors informed about how each student, section, and class is performing, allowing for more productive use of lecture and office hours. Instructors have the ability to assess and analyze students' progress on assignments throughout the term, seamlessly and with ease.



Category Analysis

Section: Garrison Managerial Insight Demo (Professor, Business) Report created: 06/07/2019 2:16 PM CDT

Report date range: -

Assignment: Chapter 2 Homework

Expand each category to see scores.

| | Questions | Students submitted | Category score (of 1 assignment attempt) |
|--|-----------|--------------------|--|
| Bloom's | | | |
| + Apply | 4 | 50/54 | 75.18% |
| + Understand | 1 | 50/54 | 76.00% |
| Learning Objective | | | |
| + 03-01 Compute a predetermined overhead rate. | 1 | 50/54 | 92.00% |
| + 03-02 Apply overhead cost to jobs using a predetermined overhead rate. | 1 | 50/54 | 78.00% |
| + 03-03 Compute the total cost and average cost per unit of a job. | 1 | 50/54 | 65.00% |
| + 03-04 Understand the flow of costs in a job-order costing system and prepare app | 1 | 50/54 | 76.00% |

Training Opportunities



Upon selecting McGraw Hill Education products for your course, you will receive the following commitment to you and your students needs.

Instructor Training Needs

Training on Connect Engineering is conducted by webinar, as well as on campus, depending on instructional needs and desires.

- Your Implementation Team is dedicated to efficient implementation of Connect Engineering and SmartBook.
- Your Digital Faculty Consultants, current Engineering instructors using Connect, are available for best practices discussions.

Student Training Needs

- McGraw Hill can conduct “First Day of Class” student trainings to ensure that students access and navigate Connect Engineering effectively as well as efficiently.
- McGraw Hill offers mid-semester student trainings and videos to help them utilize reporting features to build more effective study habits.
- Customer Service is available regularly, including during non-traditional business hours (e.g., Sunday evenings). Hours and Personnel are heightened during rush times, such as registration and finals, and this will continuously be monitored for times of greater need.

Support Commitment

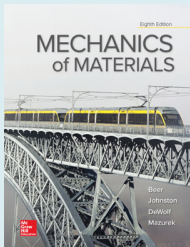
- McGraw Hill provides on-going support for Connect Engineering and all digital resources that accompany our programs for the life of the adoption. You can expect unparalleled service from our full national sales, marketing and editorial teams.
- We guarantee a 24-hour response time to any questions, needs or issues which might arise throughout the life of the adoption.

Desk Copy Commitment

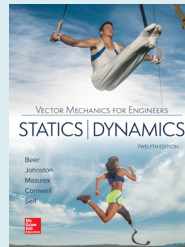
- McGraw Hill provides instructor desk copies for all instructors.

Engineering Titles with Connect

Engineering Mechanics



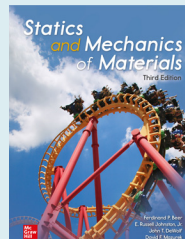
Mechanics of Materials, 8e
 Ferdinand Beer
 E. Russell Johnston, Jr.
 John DeWolf
 David Mazurek



**Vector Mechanics for Engineers:
 Statics and Dynamics, 12e**
 Ferdinand Beer
 E. Russell Johnston, Jr.
 David Mazurek



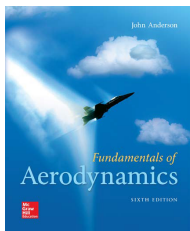
**Vector Mechanics for Engineers:
 Dynamics, 12e**
 Ferdinand Beer
 E. Russell Johnston, Jr.
 David Mazurek
 Phillip Cornwell
 Brian Self



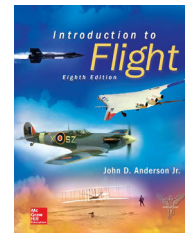
**Statics and Mechanics of
 Materials, 3e**
 Ferdinand Beer
 E. Russell Johnston, Jr.
 John DeWolf
 David Mazurek

New Edition!

Aeronautical Engineering

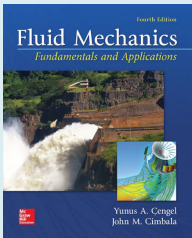


Fundamentals of Aerodynamics, 6e
 John Anderson



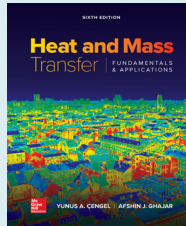
Introduction to Flight, 8e
 John Anderson

Thermal and Fluids Engineering



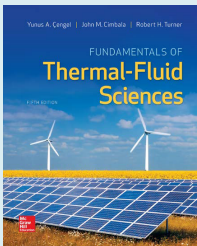
Fluid Mechanics: Fundamentals and Applications, 4e

Yunus Cengel
John Cimbala



Heat and Mass Transfer: Fundamentals and Applications, 6e

Yunus Cengel
Afshin Ghajar



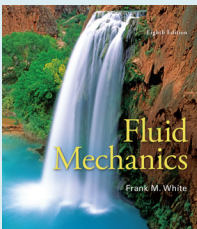
Fundamentals of Thermal-Fluid Sciences, 5e

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Robert Turner
John Cimbala



Thermodynamics: An Engineering Approach, 9e

Yunus Cengel
Michael Boles

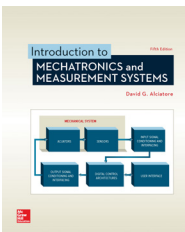


Fluid Mechanics, 9e

Frank M. White

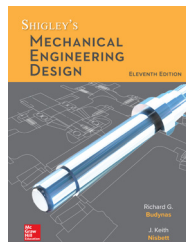
New Edition Coming in late 2020!

Mechanical Engineering



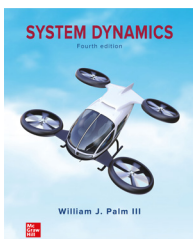
Introduction to Mechatronics and Measurement Systems, 5e

David G. Alciatore
Micheal B. Histan



Shigley's Mechanical Engineering Design, 11e

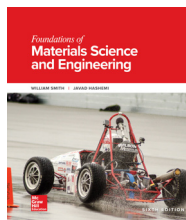
Richard Budynas
Keith Nisbett



System Dynamics, 4e

William Palm III

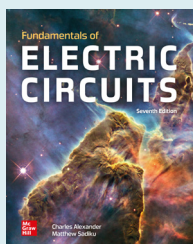
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Foundations of Materials Science and Engineering, 6e

William F. Smith
Javad Hashemi

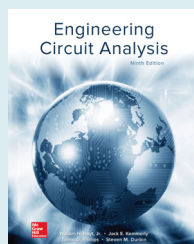
Electrical Engineering



Fundamentals of Electric Circuits, 7e

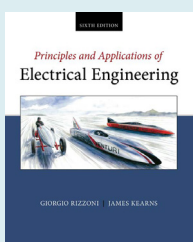
Charles Alexander
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Engineering Circuit Analysis, 9e

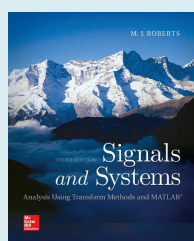
William Hayt
Jack Kemmerly
Jamie Phillips
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Principles and Applications of Electrical Engineering, 6e

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James Kearns

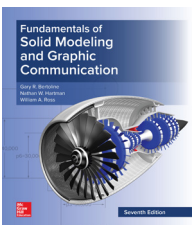
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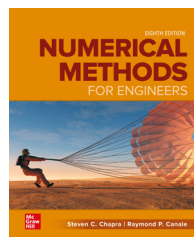
M.J. Roberts

Fundamentals of Engineering



Fundamentals of Solid Modeling and Graphic Communication, 7e

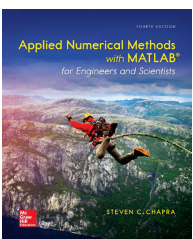
Gary Bertoline
Eric Wiebe
Nathan Hartman
William Ross



Numerical Methods for Engineers, 8e

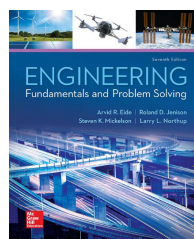
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Applied Numerical Methods with MATLAB for Engineers and Scientists, 4e

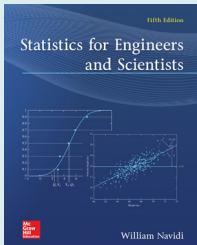
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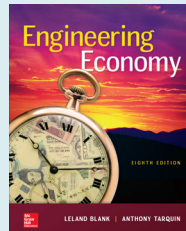
Engineering Fundamentals and Problem Solving, 7e

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Larry Northup
Steven Mickelson

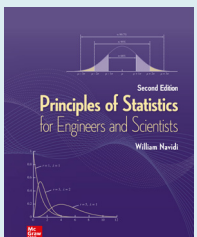
Industrial Engineering



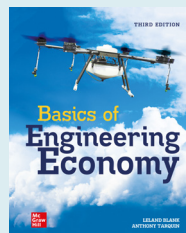
Statistics for Engineers and Scientists, 5e
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Engineering Economy, 8e
Leland Blank
Anthony Tarquin



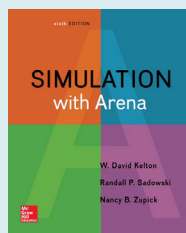
Principles of Statistics for Engineers and Scientists, 2e
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Basics of Engineering Economy, 3e
Leland Blank
Anthony Tarquin

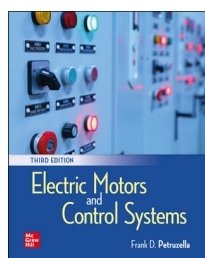


Technology Ventures: From Idea to Enterprise, 5e
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Richard C. Dorf
Andrew J. Nelson

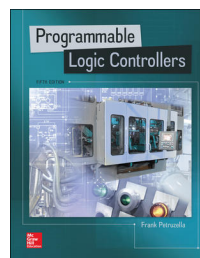


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Motors and Controllers

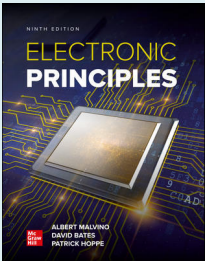


Electric Motors and Control Systems, 3e
Frank Petruzella

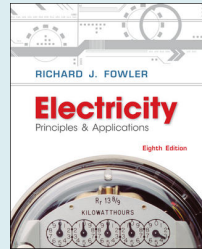


Programmable Logic Controllers, 5e
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Electricity and Electronics Without Connect

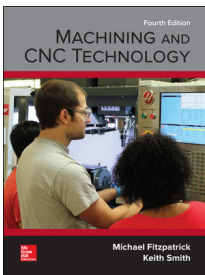


Electronic Principles, 9e
Albert Malvino
David Bates
Patrick Hoppe

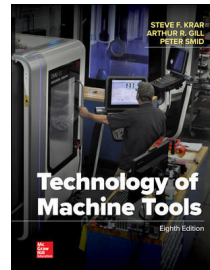


Electricity: Principles & Applications, 8e
Richard Fowler

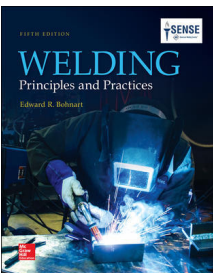
Machining



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Keith Smith

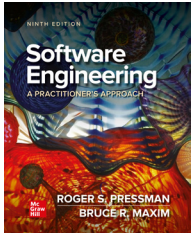


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Peter Smid
Robert J. Gerritsen

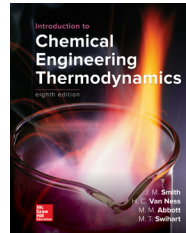


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Edward Bonhart

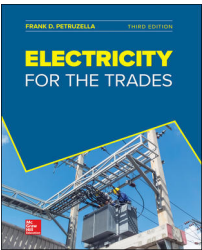
Additional Titles



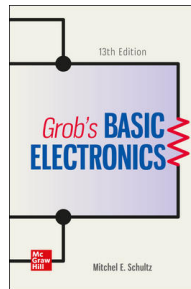
Software Engineering: A Practitioner's Approach, 9e
Roger Pressman
Bruce Maxim



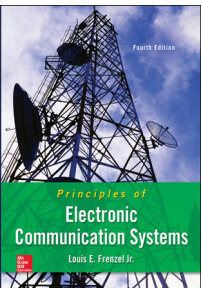
Introduction to Chemical Engineering Thermodynamics, 8e
J.M. Smith
Hendrick Van Ness
Michael Abbott,
Mark Swihart



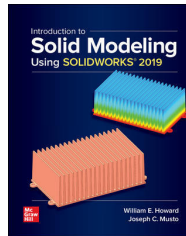
Electricity for the Trades, 3e
Frank Petruzella



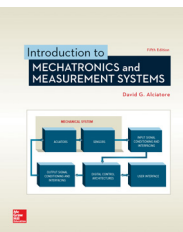
Grob's Basic Electronics, 13e
Mitchel Schultz



Principles of Electronic Communication Systems, 4e
Louis Frenzel



Introduction to Solid Modeling Using SOLIDWORKS, 15e
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Introduction to Mechatronics and Measurement Systems, 5e
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