User Guide

About this Guide

The AccessEngineering User Guide provides users with a detailed guide for exploring content, resources, and tools on AccessEngineering. Along with the AccessEngineering Administration page and the AccessEngineering LibGuide, this user guide provides AccessEngineering users with the information they need to utilize AccessEngineering effectively as students, faculty, and professionals.

See the Table of Contents for details on what this guide covers. Note that, given the breadth of content on AccessEngineering, this guide does not provide a complete overview of all the resources available on the site.

Questions about this user guide should be directed to customersuccess@mheducation.com

Table of Contents

About AccessEngineering

AccessEngineering (accessengineeringlibrary.com) is an award-winning engineering reference and teaching platform that delivers world-renowned, interdisciplinary engineering content integrated with analytical teaching and learning tools.

AccessEngineering prepares students to solve real-world problems, makes curriculum planning and delivery easy for faculty, and helps professionals find relevant information faster, driving increased ROI.

With AccessEngineering, users can:

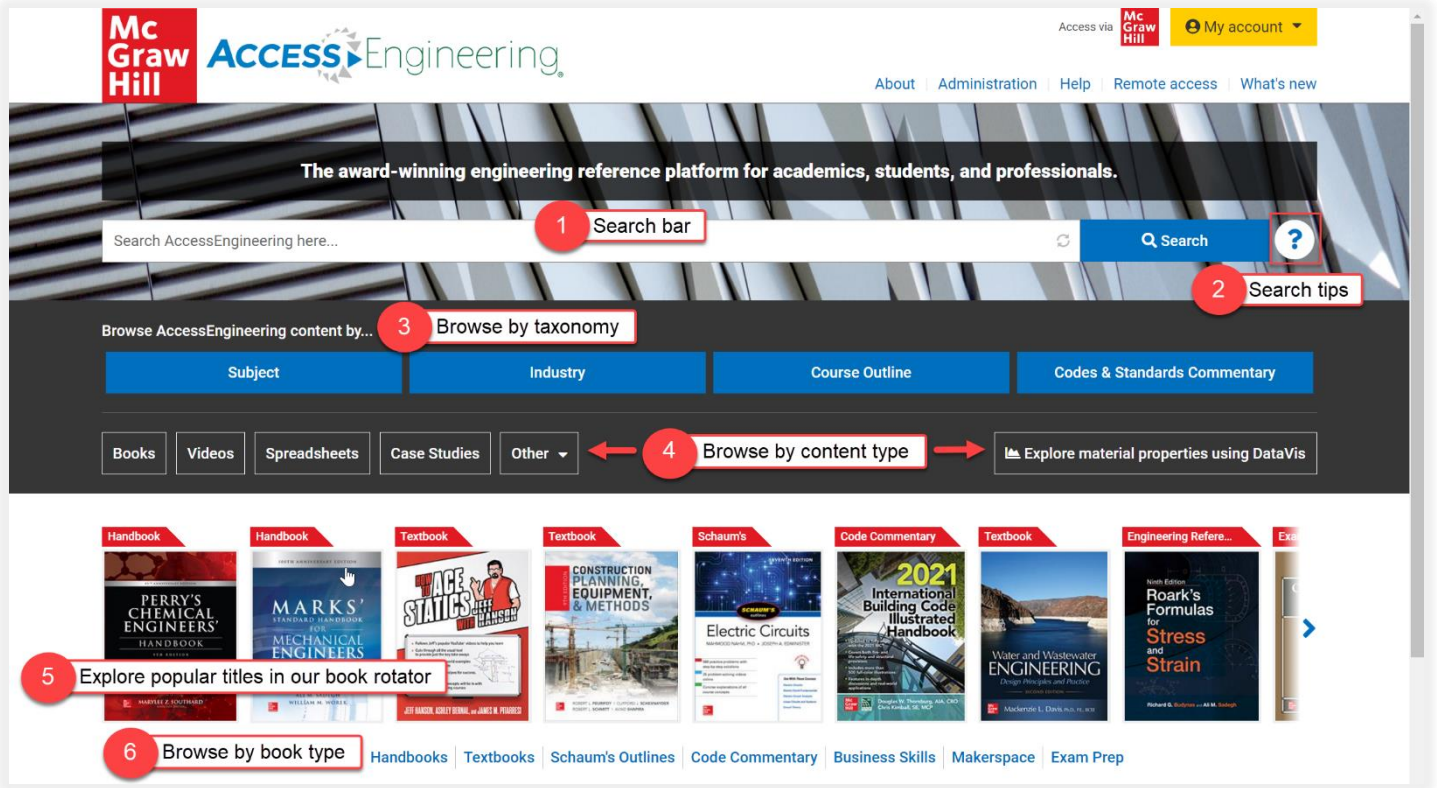
- Search the latest editions of renowned engineering handbooks such as *Perry's Chemical Engineers' Handbook*, *Marks' Standard Handbook for Mechanical Engineers*, and the *Standard Handbook for Electrical Engineers*, as well as and hundreds of other expert references
- Access leading upper-level engineering textbooks, including Golnaraghi's *Automatic Control Systems*, Vanek's *Energy Systems Engineering*, and Davis' *Water and Wastewater Engineering*
- Better understand material properties with DataVis, the interactive data visualization tool
- Accurately solve complex engineering equations with downloadable Excel spreadsheets
- Watch engineering solutions in action with hundreds of faculty-created videos
- Analyze key data with thousands of interactive graphs and downloadable tables
- Review comprehensive step-by-step explanations—not just answers— of engineering problems using solutions walkthroughs
- Find answers quickly with powerful, faceted search capabilities
- Develop entrepreneurial business skills to capitalize on innovations
- Browse content by subject, industry, course, or codes & standards to find the information you need
- Organize project information with personalization tools

Advised by distinguished academic professionals

AccessEngineering's Faculty Advisory Board are all highly distinguished engineering faculty members. They ensure that AccessEngineering maintains the very highest editorial standards and covers the latest developments across all major engineering disciplines. Their collective expertise—within both academic and professional contexts—ensures that AccessEngineering remains the most comprehensive, innovative, and up-to-date reference available to engineering faculty, students, and professionals alike. For more information, see our Faculty Advisory Board page.

For a full listing of contributors who have developed the videos, case studies, solution walkthroughs, DataVis projects and spreadsheet calculators that are exclusive to AccessEngineering, see our Contributors page.

Homepage



The AccessEngineering homepage is designed to help users understand what AccessEngineering is, what content it offers, and how they can start exploring the site.

From the homepage, users can easily search for content, browse by taxonomy, or browse by content type. They can also explore some of our most popular books in the book rotator display or browse books by book type.

As soon in the image above, users can take multiple actions from the home page, including:

1. Start a search by entering terms into the search bar
2. View search tips for help using Boolean, grouping, and wildcards
3. Browse by taxonomy to explore content mapped according to our 4 taxonomies: Subject, Industry, Course Outline, and Codes & Standards Commentary
4. Browse by material type to explore books, videos, spreadsheets, case studies, and other resources (other resources are solution walkthroughs and tutorials). Users can also open the DataVis tool and browse DataVis projects.
5. Open a popular title from the book rotator
6. Browse books by book type, including Handbooks, Textbooks, Schaum's Outlines, Code Commentary, Business Skills, Makerspace, and Exam Prep title

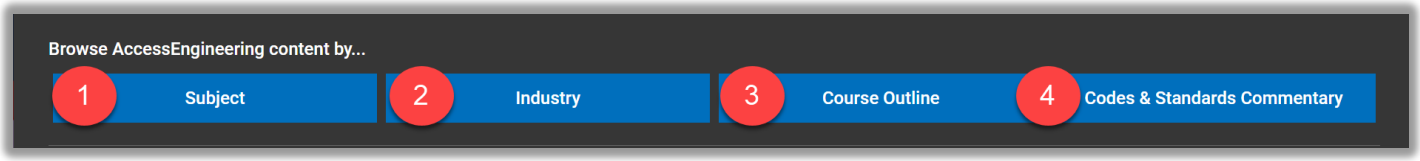
From the homepage, users can also click into interactive tools, include DataVis, Spreadsheets, Videos, Graphs & Tables, Solution Walkthroughs, and Case Studies.

> Note: Tutorials supplement a limited number of spreadsheet calculators on the site. They provide discussion, example problems, and illustrations of how to use the spreadsheet calculator.

Browse by Taxonomy

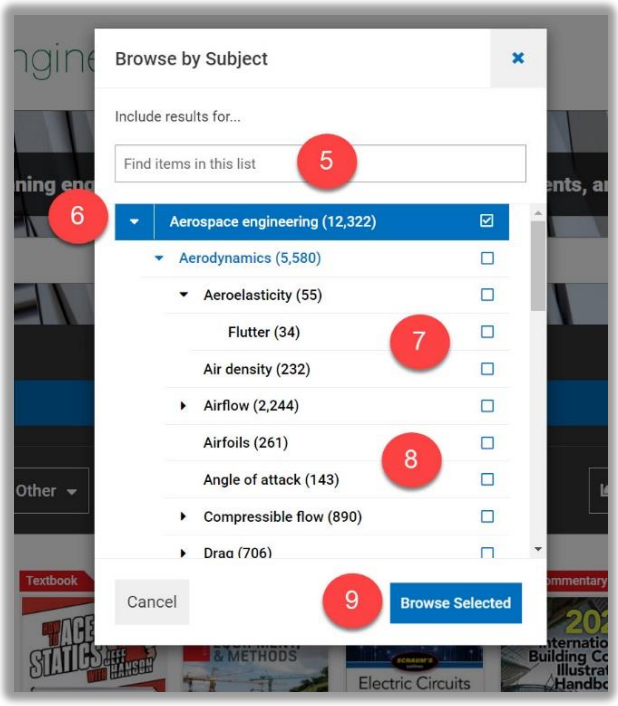
Browse by taxonomy allows users to explore AccessEngineering's content by choosing relevant terms from the site's Subject, Industry, Course Outline, or Codes & Standards Commentary taxonomies (see image below).

1. Browse by Subject
   - The subject taxonomy enables users to drill down several levels to find content relevant to specific engineering topics
   - Drill down from 17+ major engineering disciplines to over 6,000 specific terms
2. Browse by Industry
   - The industry taxonomy enables users to find content relevant to 11 specific engineering industries
3. Browse by Course Outline
   - The course outline taxonomy enables users to find content relevant to specific topics covered within engineering courses
   - Find content mapped to 37+ common engineering courses, arranged to match a typical course syllabus
4. Browse by Codes & Standards Commentary
   - The codes & standards commentary taxonomy enables users to find content that discusses specific engineering codes and standards



Within the browse window for each taxonomy (see image at right), users can:

5. Search the taxonomies for specific terms
6. Use the arrows to drill down to more specific terms
7. Select multiple terms using the checkboxes
8. See the number of content items tagged to each term
9. See browsing results by clicking Browse Selected



A Note on Taxonomies

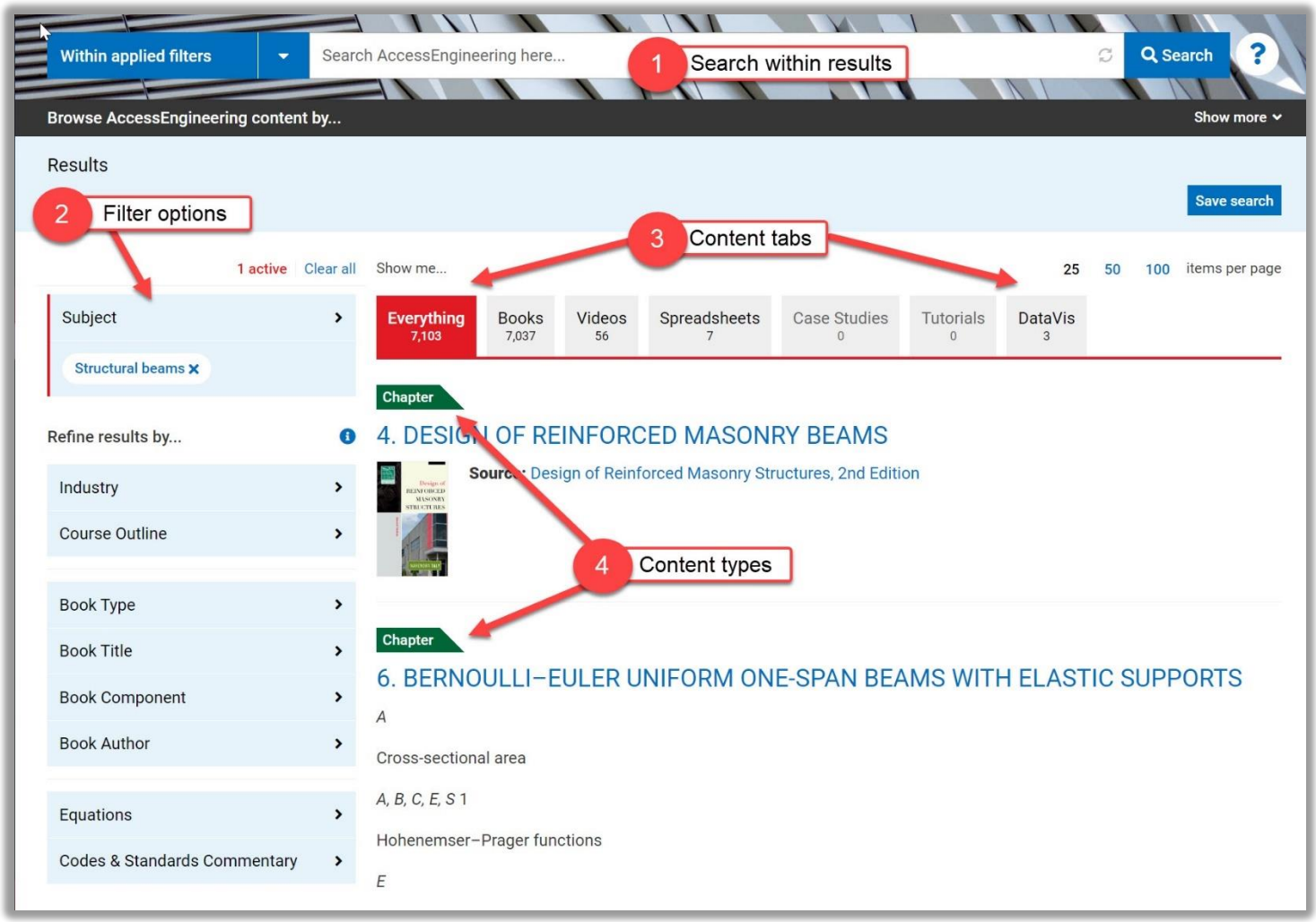
AccessEngineering's taxonomies are developed by Access Innovations, a company whose sole focus is taxonomy creation and implementation. Guidance and testing is done throughout the process by a team of subject matter experts spanning every engineering discipline. Content is tagged to taxonomy terms using a semi-automated approach where taxonomy specialists manually write complex rules to incorporate context to differentiate between terms (ex: fuel cell, biological cell, or battery cell) and then an automated process uses these rules to tag the content accurately. Weighting is assigned to tags in the content to reflect the extent to which content is about a particular term. The taxonomies are updated every 9-12 months.

Browsing Results

Browsing results include content tagged to the term(s) selected in the browse window. Browsing a broad (parent) term will show results tagged to that term as well as results tagged to nested (child) terms in the taxonomy. The results are ordered by taxonomy weights so the most relevant results to the selected terms show up first. From the results screen, users have several options to further narrow the results.

As shown in the image below, users can:

1. Search within the results
2. Apply additional filters; view or remove active filters
3. Filter by content type using the content tabs
4. Quickly identify content types within results using the green content tags

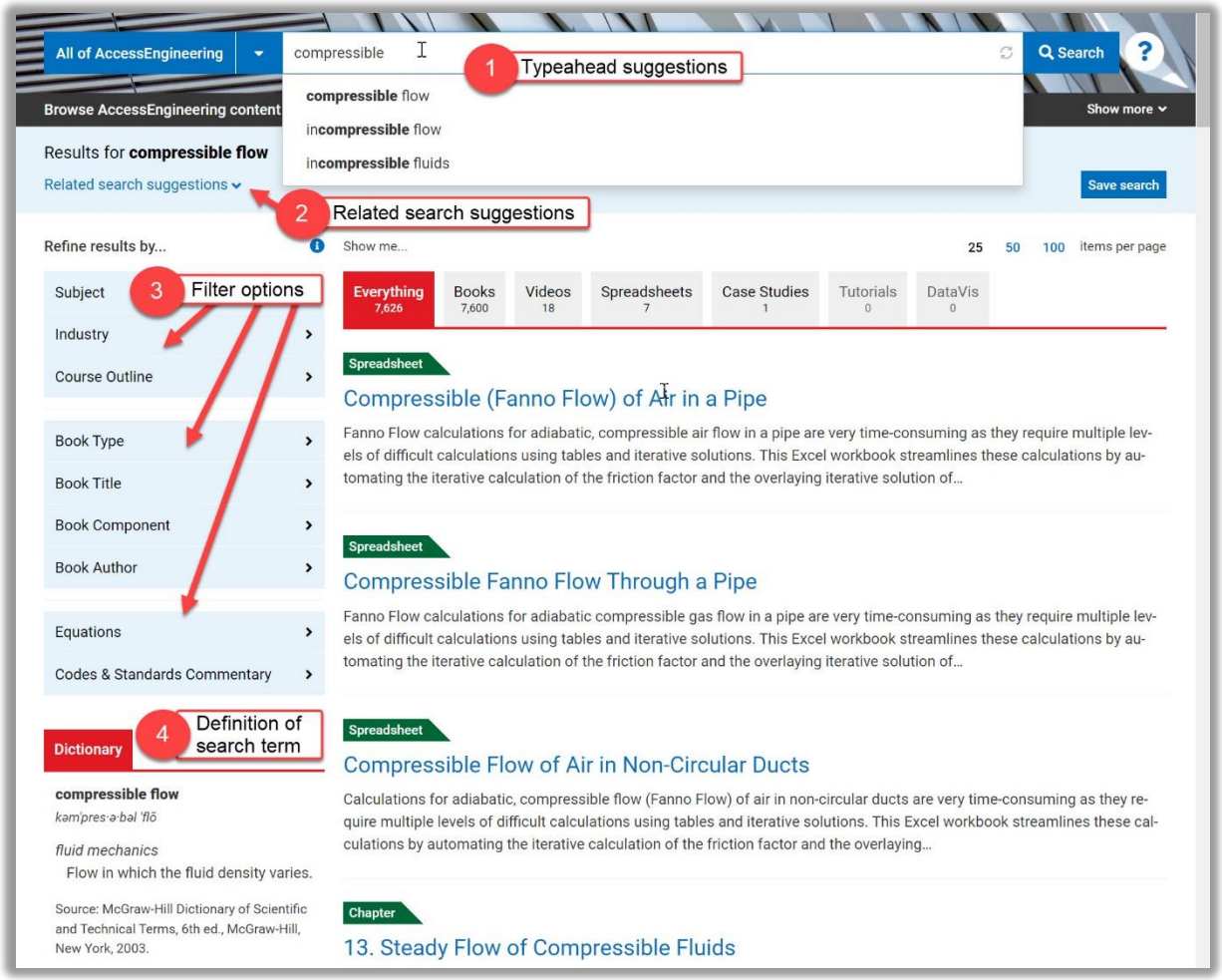


Searching & Filtering

The search bar is persistent across every page of AccessEngineering (see image below). Users can toggle between searching within their results or searching across all of AccessEngineering.

As seen in the image below, features of searching and search results include:

1. Typeahead suggestions for matching taxonomy terms
2. Related search suggestions based on taxonomy relationships
3. Multiple options to further refine results through filters
4. Dictionary definitions of search terms from the *McGraw-Hill Dictionary of Scientific & Technical Terms*

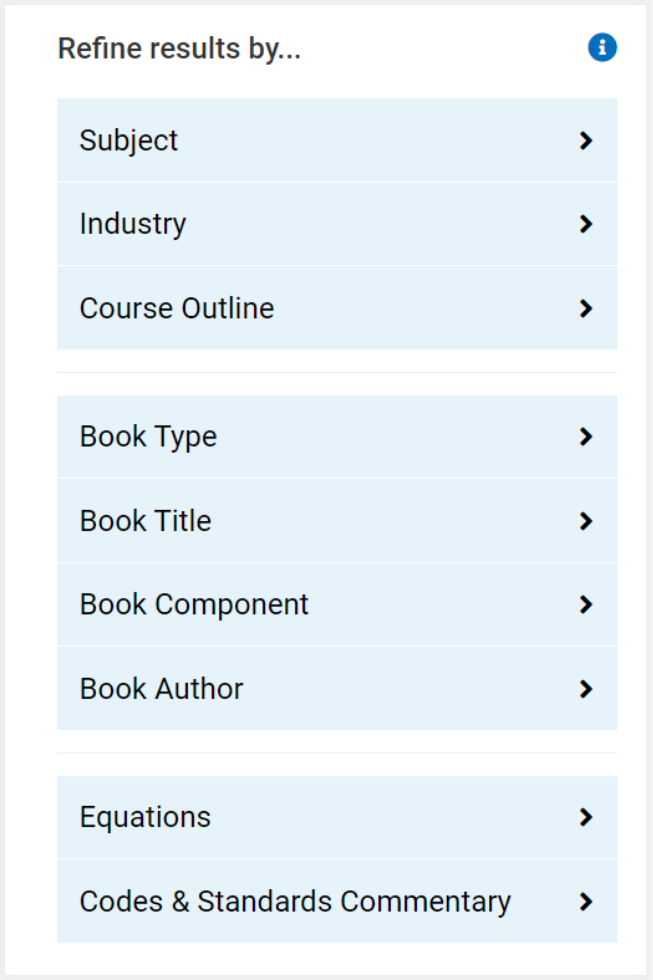


Filtering

Filters are available on the left side of the results screen under “Refine results by…” These filter options appear on the results when a user performs a search or a browse.

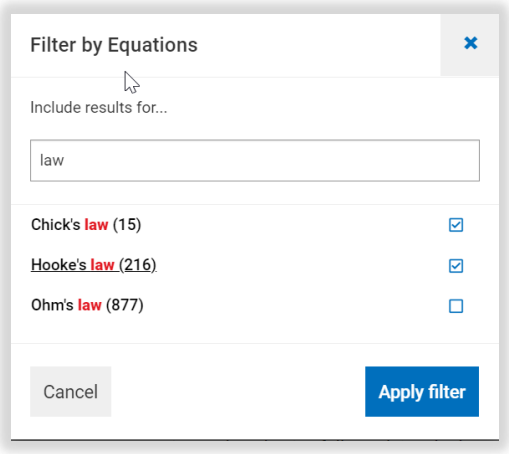
Users can filter by:

1. Subject taxonomy
2. Industry taxonomy
3. Course Outline taxonomy
4. Book Type
   - Book types include Engineering Reference, Handbook, Textbook, Business Skills, MakerSpace, Code Commentary, Schaum’s, Calculations, Exam Prep, and more
   - Books are assigned a book type or types by our editorial team
   - Many books are assigned multiple book types (e.g. Textbook and Engineering Reference)
5. Book Title
6. Book Component
   - Book component includes Titles, Chapters, Solution Walkthroughs, Figures, Graphs, Tables, and Examples
   - Note that Titles refers to a full-text book mapped to the search term or subject; Chapters refers to any single chapter or section mapped to the search term or subject
7. Book Author
8. Equations
   - The equations filter will return results that include or reference a specific equation
9. Codes & Standards Commentary Taxonomy



Users can make multiple selections within each filter and apply multiple filter categories simultaneously. Multiple selections within any individual filter category applies an "OR" to the search results, while selecting across multiple filter categories applies an "AND" to the results.

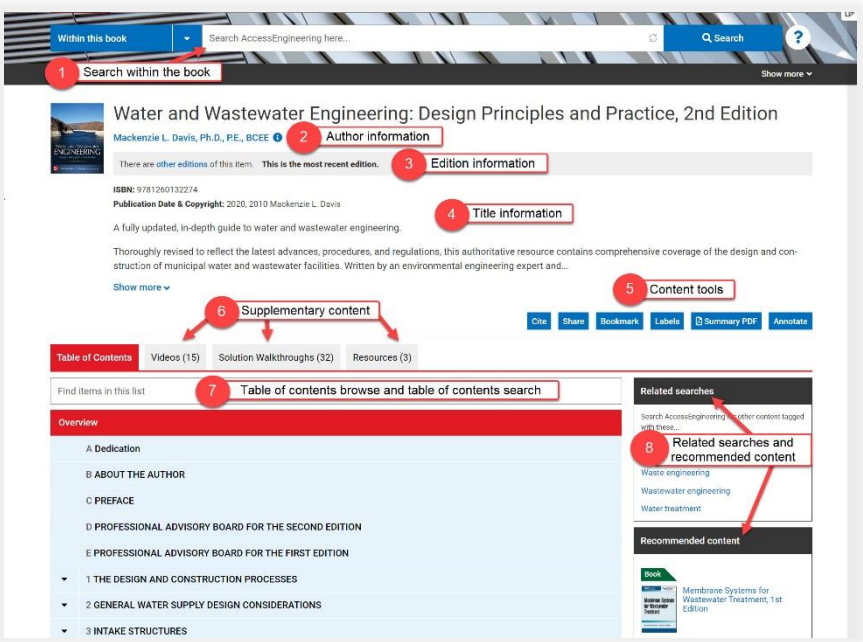
All filters can be searched for specific terms (see image at right for an example).



Books

Users can click on a book title to see the book landing page (image at top right). From the book landing page, users can:

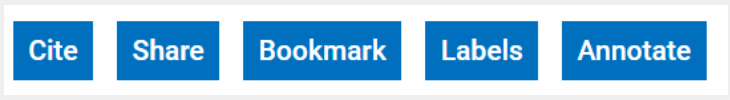
1. Search within the book; Users can also toggle the drop down to search across all of AccessEngineering
2. See author information
3. See edition information; click into older or newer editions (if available)
4. See additional title information, including ISBN, publication date, and book description
5. Use content tools (see section below for more information).
6. Navigate multimedia and supplementary content, including videos, solution walkthroughs, and Resources.
7. Browse or search chapters using the persistent table of contents
8. Initiate a related search across AccessEngineering for other content tagged with the same terms as this book or click into recommended content.



A Note on Book Editions:

Older editions of books are archived and still accessible on the site, but only content from the newest edition is included in the search results. All links to old editions will continue to function, and a list of all archived books can be found in the site footer.

Content Tools



Content tools are available for most pieces of content on AccessEngineering. These tools include:

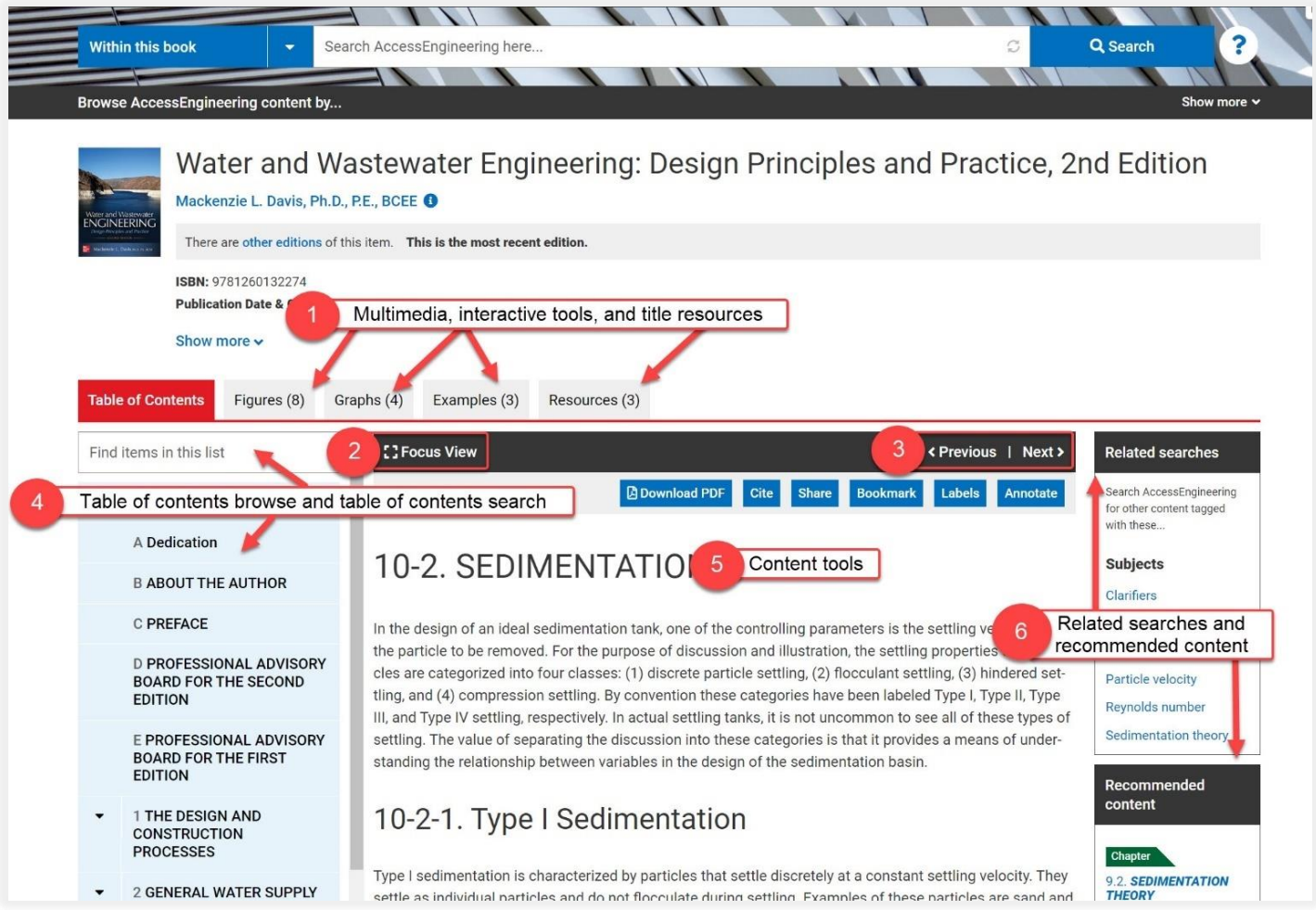
- **Cite**: Generate a citation; download citation as an RIS file
- **Share**: Copy a permanent URL for the content.
  - Users will have the option to choose a link to send to authenticated users or a proxy link to send to remote users.
  - Users can also share a link to social media. Note that only AccessEngineering subscribers will have access to the content.
- **Bookmark**: Users who are signed in to their AccessEngineering personal account can add content to their bookmarks.
- **Labels**: Users who are signed in to their AccessEngineering personal account can add custom labels to content.
- **Annotate**: Users can highlight and annotate content on AccessEngineering using Hypothesis. For more information on Hypothesis, see the Annotations section on page 23 of this guide.

Book Chapters

Users can click on a chapter within a book to see the book chapter landing page. From the book chapter landing page, users can:

1. Navigate directly to multimedia and interactive tools that appear within the chapter, including Figures, Graphs, Tables, and Example problems; view Resources for the entire book.
2. Open Focus View to expand the text and reduce visual clutter
3. Go to the previous or next book chapter
4. Browse or search chapters using the persistent table of contents
5. Use content tools.
   - Download PDF lets users download a PDF of the book chapter
   - Download is available for other content types as well
   - Full-text books cannot be downloaded
6. Initiate a related search across AccessEngineering for other content tagged with the same terms as this book or click into recommended content.

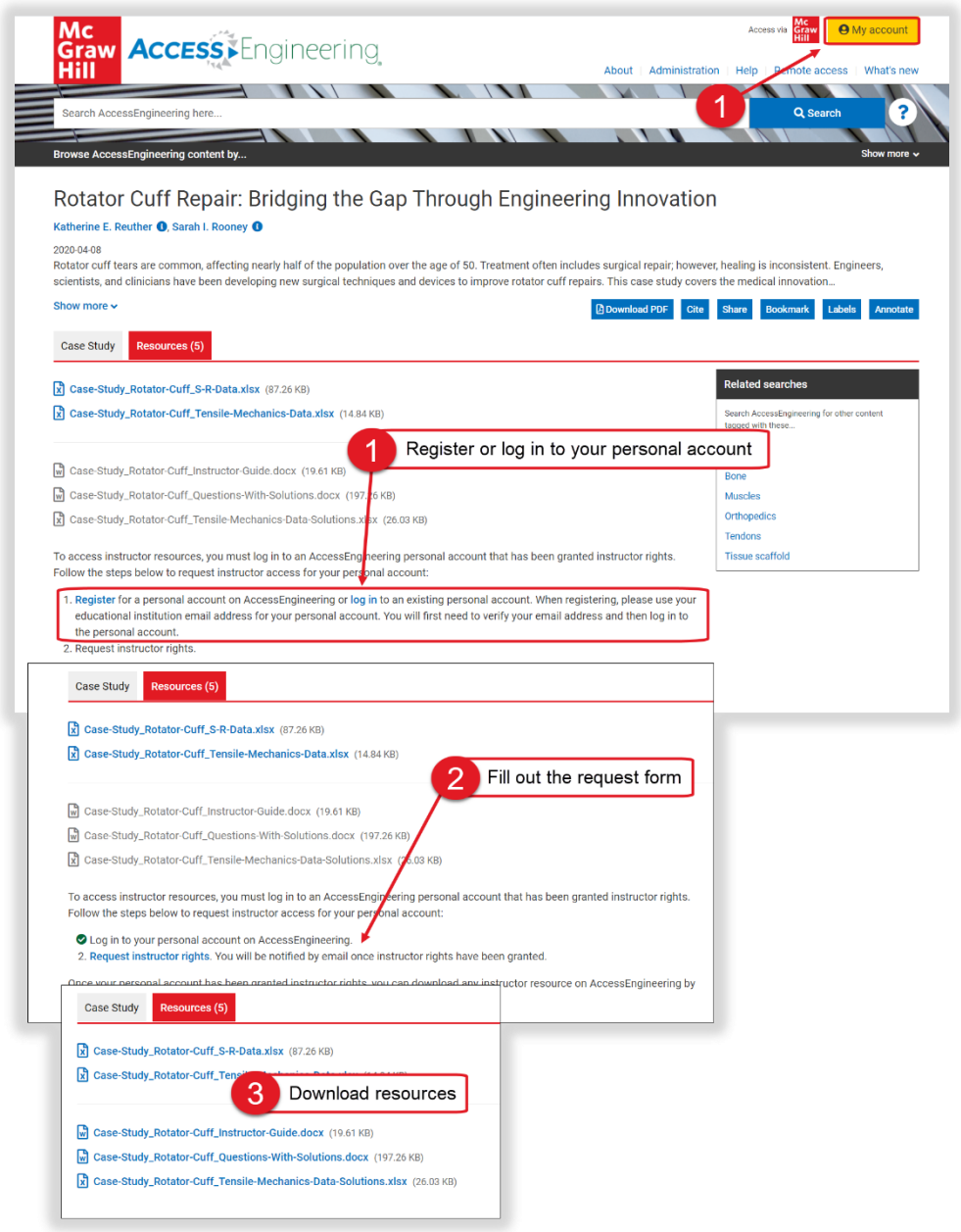
Note: “Chapters” is used to mean both chapters and sections of books.



Resources Tab

Supplemental resources for both students and instructors are available for select titles on AccessEngineering in the Resources tab. These supplemental materials are available in the Resources tab on the Book, Case Study, or DataVis project landing pages. Resources may include PowerPoint slides, solutions manuals, lab instructions, and more.

Several of these resources, such as solutions manuals, are locked; access is available only upon verification of instructor status by the Customer Success team (customersuccess@mheducation.com) To access instructor resources, users must be signed in to their AccessEngineering personal account . For more information, see the Personal Account section on page 24 of this guide.



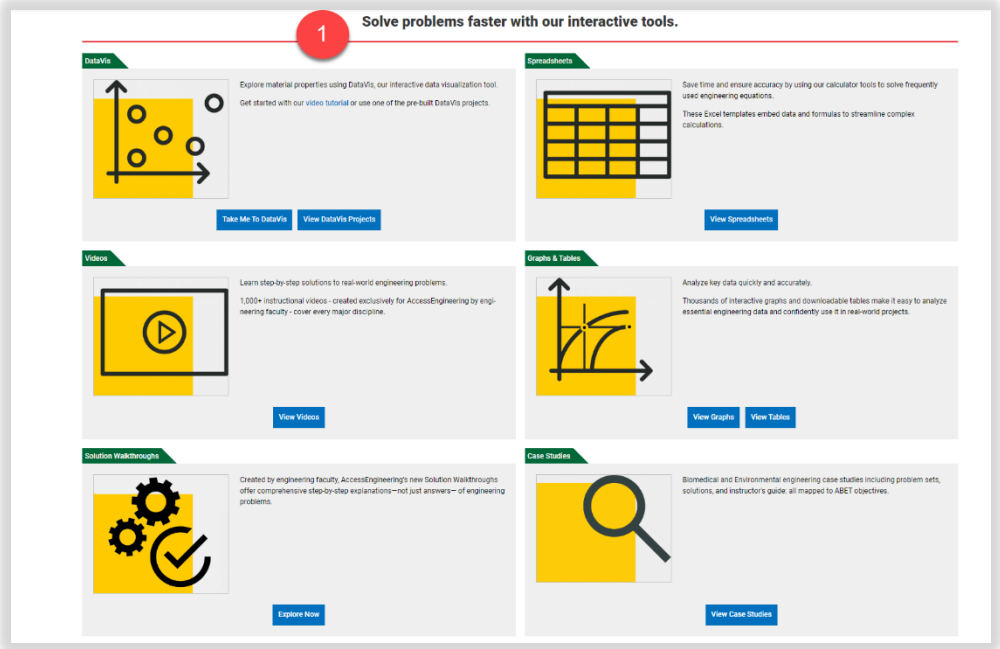
To request access to instructor resources:

1. Log in to your AccessEngineering account using the My Account button in the site header or the links on the Resources tab
2. Once you are logged in, return to the Resources tab and fill out the linked Instructor Rights request form
3. You will be notified via email if Instructor Rights have been granted–you can then return to the Resources tab of any content item and download available instructor resources

Note: You may need to log out of your account and log back in to get access after Instructor Rights have been granted.

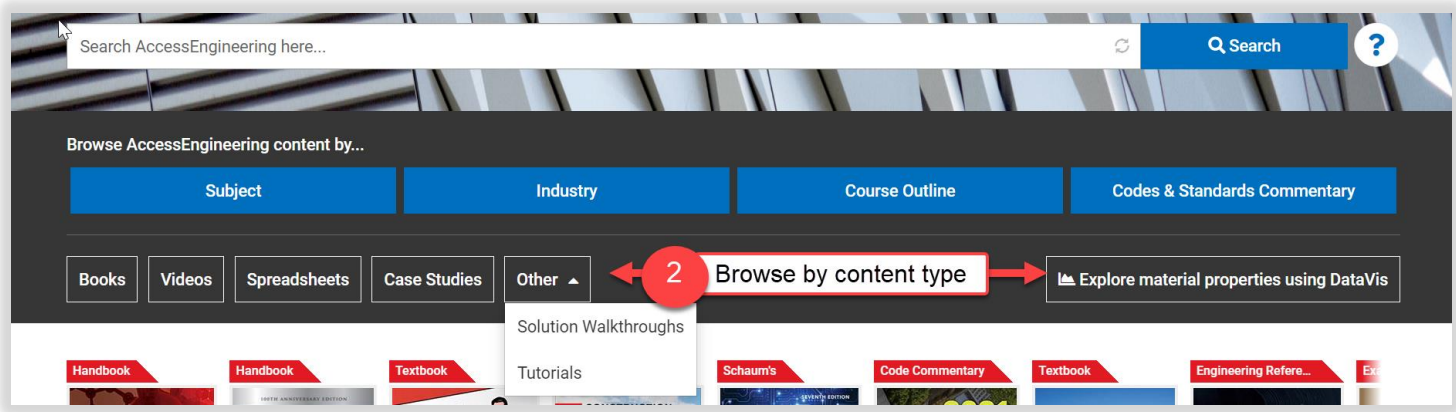
Interactive Tools

AccessEngineering's interactive tools help users solve problems faster. Interactive tools include DataVis, Spreadsheets, Videos, Graphs, Tables, Solution Walkthroughs, and Case Studies.



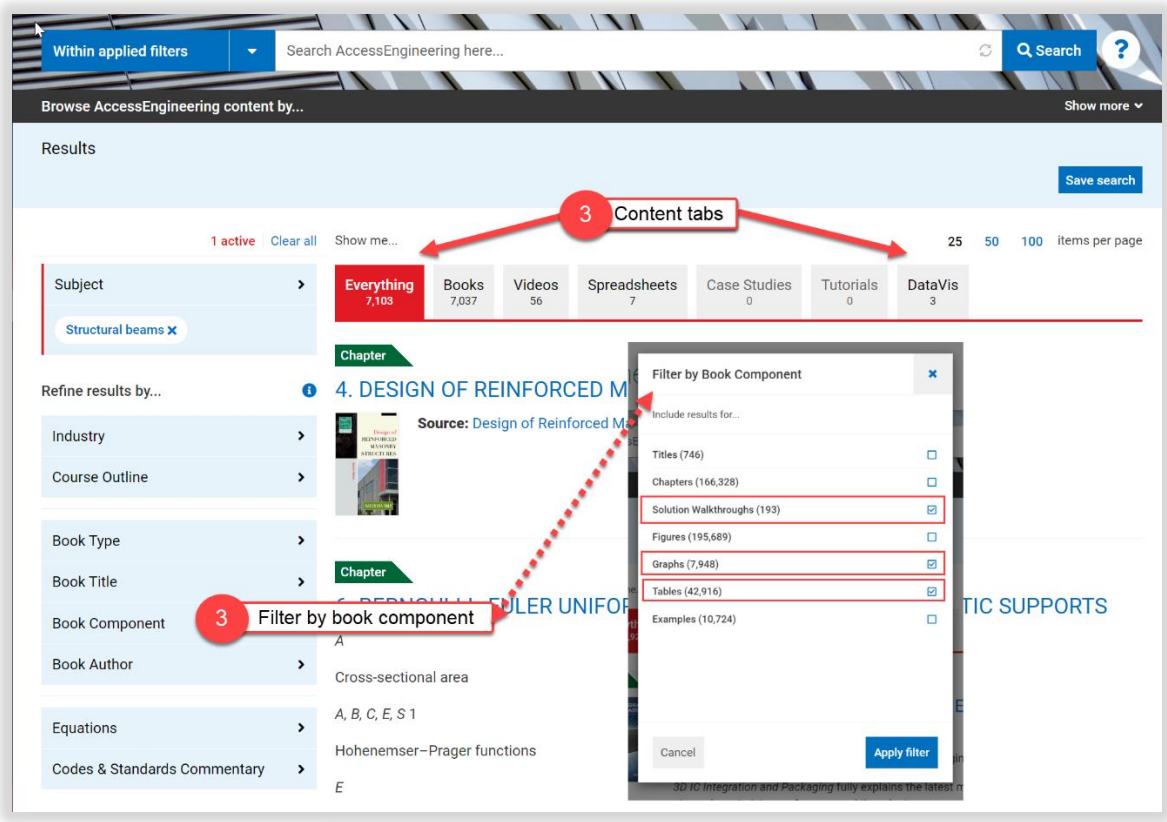
Navigating Interactive Tools

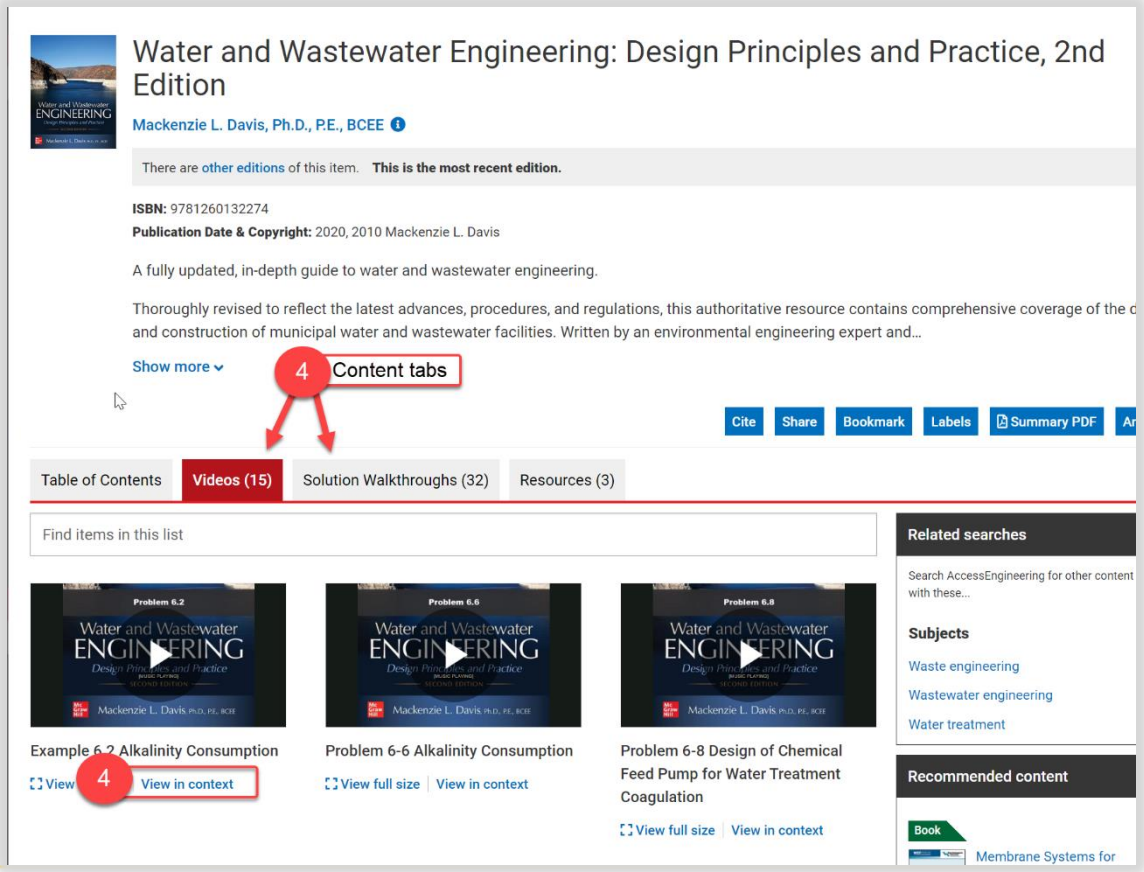
1. Users can click into interactive tools from the homepage
2. Users can browse by content type, including Videos, Spreadsheets, Case Studies, Solution Walkthroughs, and DataVis, from anywhere on the site using the persistent browse bar



3. Interactive tools also appear as individual items in browse and search results (see image on next page)
    - Users can browse by content type, including Videos, Spreadsheets, Case Studies, Tutorials, and DataVis
    - Users can filter to book component, including Solution Walkthroughs, Graphs, and Tables
4. Users will see available interactive tools in the content tabs on book and book chapter landing pages (see image on next page):
    - Book landing pages will show content tabs for the book's available videos and solution walkthroughs
    - Book chapter landing pages will show content tabs for the chapter's available videos, solution walkthroughs, graphs, and tables
    - Users can click View in Context to see the interactive tool as it appears in the text

Interactive Tools



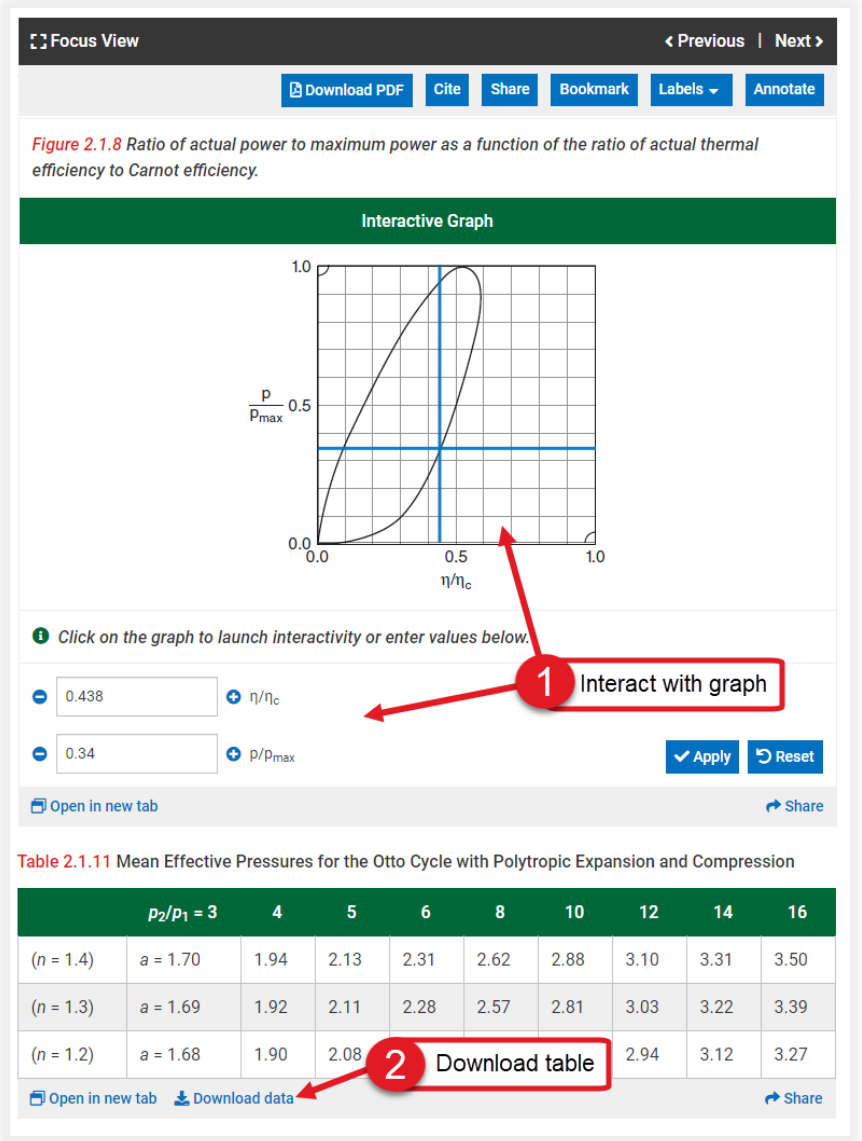


Graphs & Tables

Interactive graphs and downloadable tables help users analyze key data quickly and accurately. Thousands of interactive graphs and downloadable tables make it easy to analyze essential engineering data and confidently use it in real-world projects.

Features of AccessEngineering Graphs and Tables include:

1. Graphs: Click anywhere on the graph to see the values or input specific values to plot them on the graph
2. Tables: Download the table data as an Excel file for data manipulation and analysis

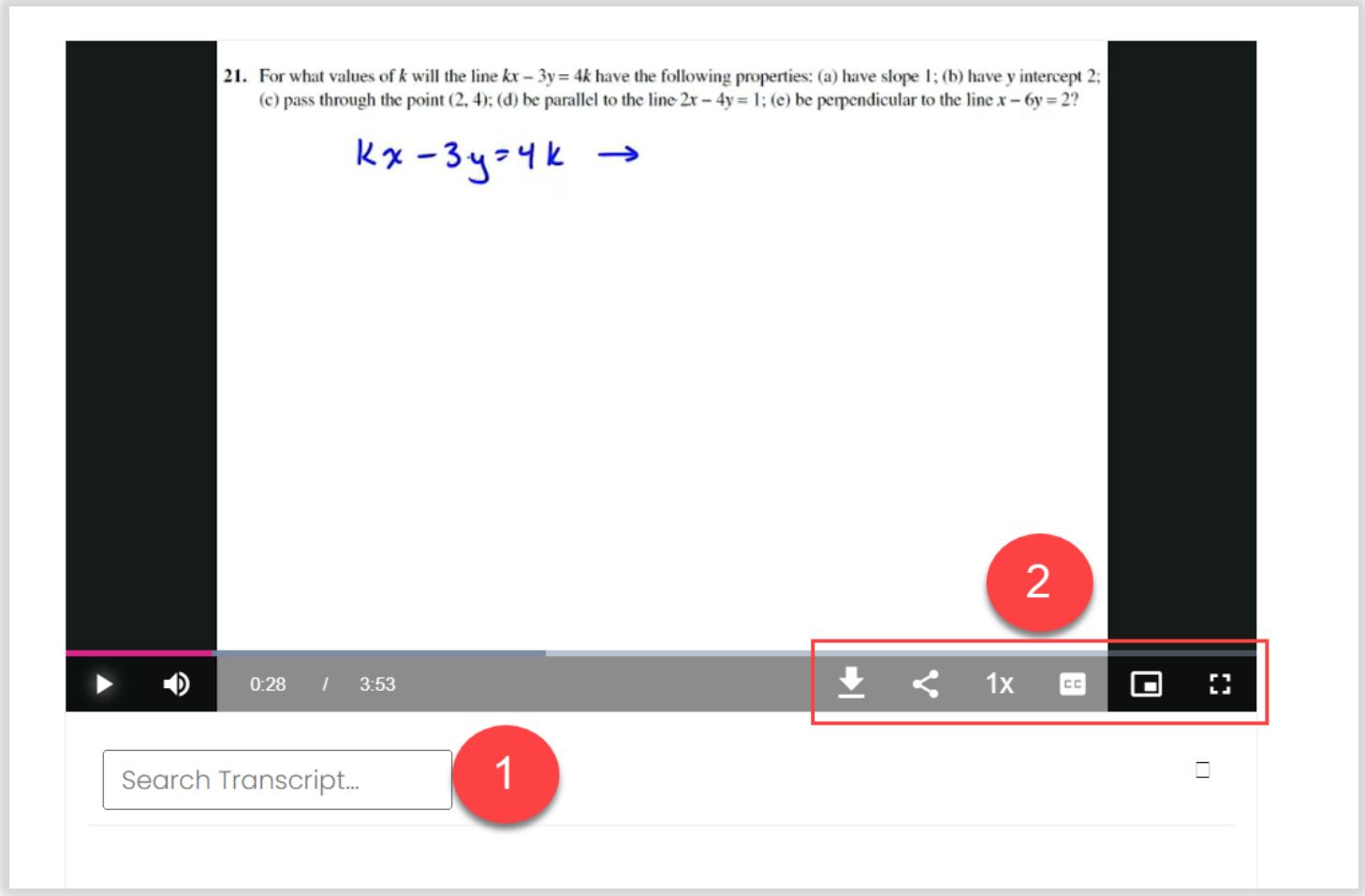


Videos

Over 1,000 instructional videos—created exclusively for AccessEngineering by engineering faculty—cover every major discipline. Videos demonstrate step-by-step solutions to real-world engineering problems.

Features of AccessEngineering videos include:

1. Full, searchable transcripts for most videos
2. Video playback options:
    - Download the video for offline viewing
    - Share videos
    - Change the playback speed
    - Turn on closed captioning
    - Turn on picture-in-picture to watch the video while continuing to navigate the same web page
    - Expand the video to fullscreen

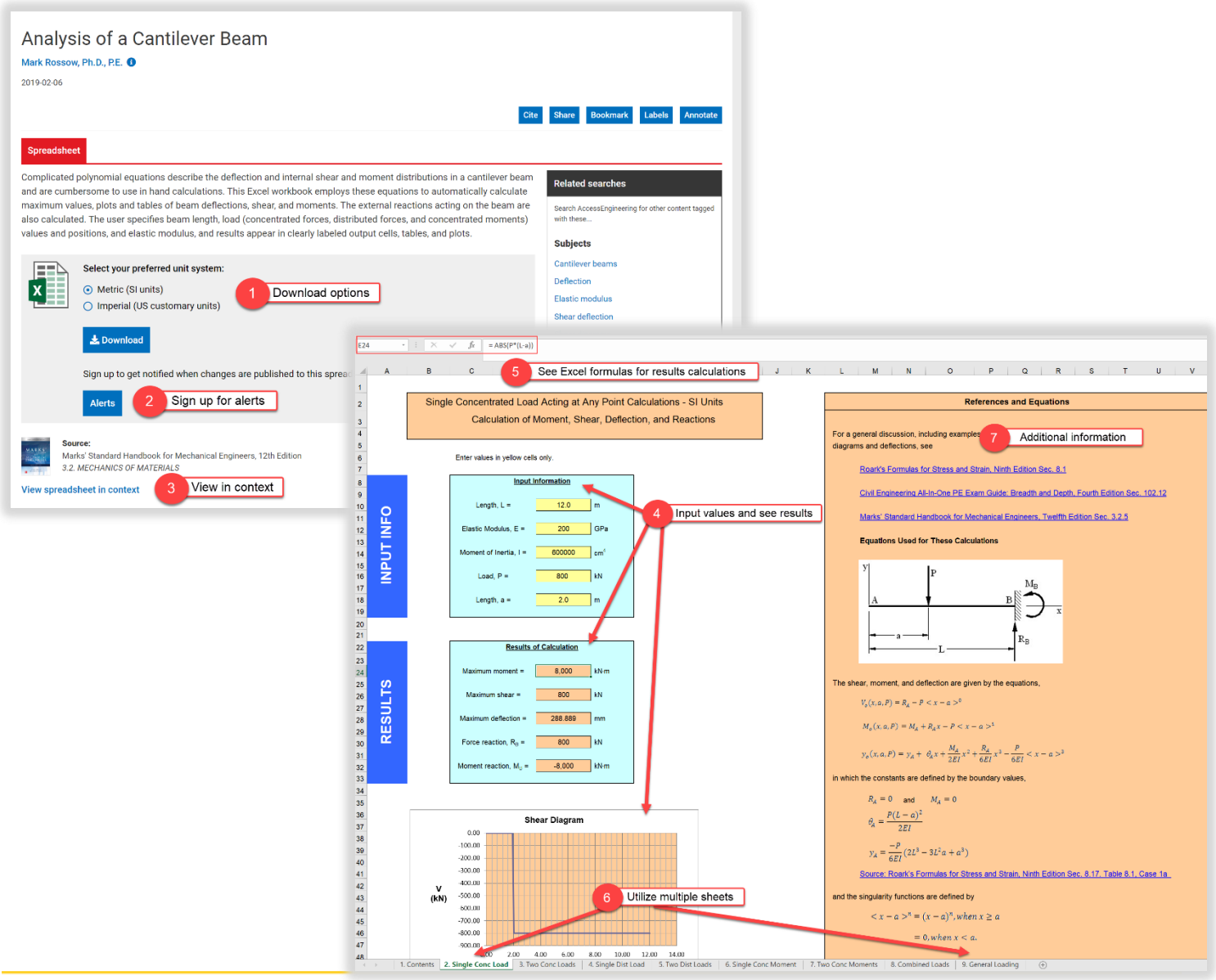


Spreadsheets

AccessEngineering's Excel spreadsheet calculators contain embedded data and formulas to streamline complex calculations. Users can save time and ensure accuracy by using calculator tools to solve frequently used engineering equations. Over 85 calculators contain more than 500 calculations.

Features of AccessEngineering's spreadsheet calculators include:

1. Download options: users can choose to download most spreadsheets in either Metric or Imperial units
2. Sign up to get notified when changes are published to the spreadsheet (highly recommended, since users often download the spreadsheet and keep it for offline use)
3. View spreadsheet in the context of its source(s)
4. Input values and see changes in results, including any associated diagrams
5. View Excel formulas for results calculations by clicking a Results cell and viewing the Formula Bar
6. Utilize multiple sheets to help with variations of complex equations
7. Find additional information on equations used, links to source titles, and related searches

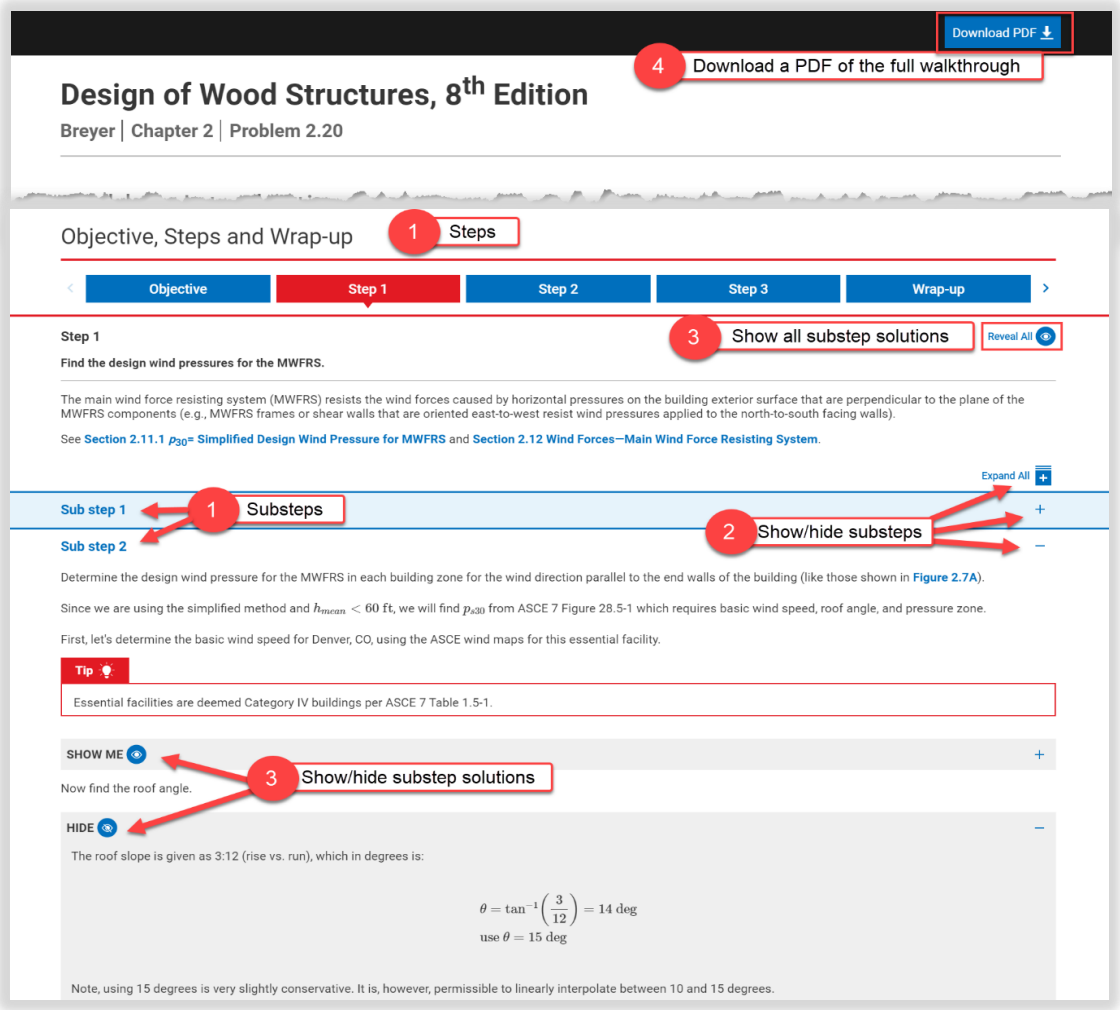


Solution Walkthroughs

AccessEngineering's Solution Walkthroughs offer comprehensive step-by-step explanations—not just answers—of engineering problems. Solution Walkthroughs are created by faculty and tested by students. Solution Walkthroughs are available for a subset of end-of-chapter problems in several popular textbooks on AccessEngineering.

Features of AccessEngineering's solution walkthroughs include:

1. Steps for solving the problem. These include an objective, the steps, and a wrap-up
    - Objective: A brief problem objective, game plan, and references
    - Steps: Steps with substeps, references, and tips
    - Wrap-Up: A summary of the problem, reminders for moving forward, related problems for furthers study, and references
2. Show/hide substeps so users can work through every substep at their own pace
3. Show/hide solutions so users can check their work through each step of the problem when they are ready to do so
4. Download a PDF of the full walkthrough

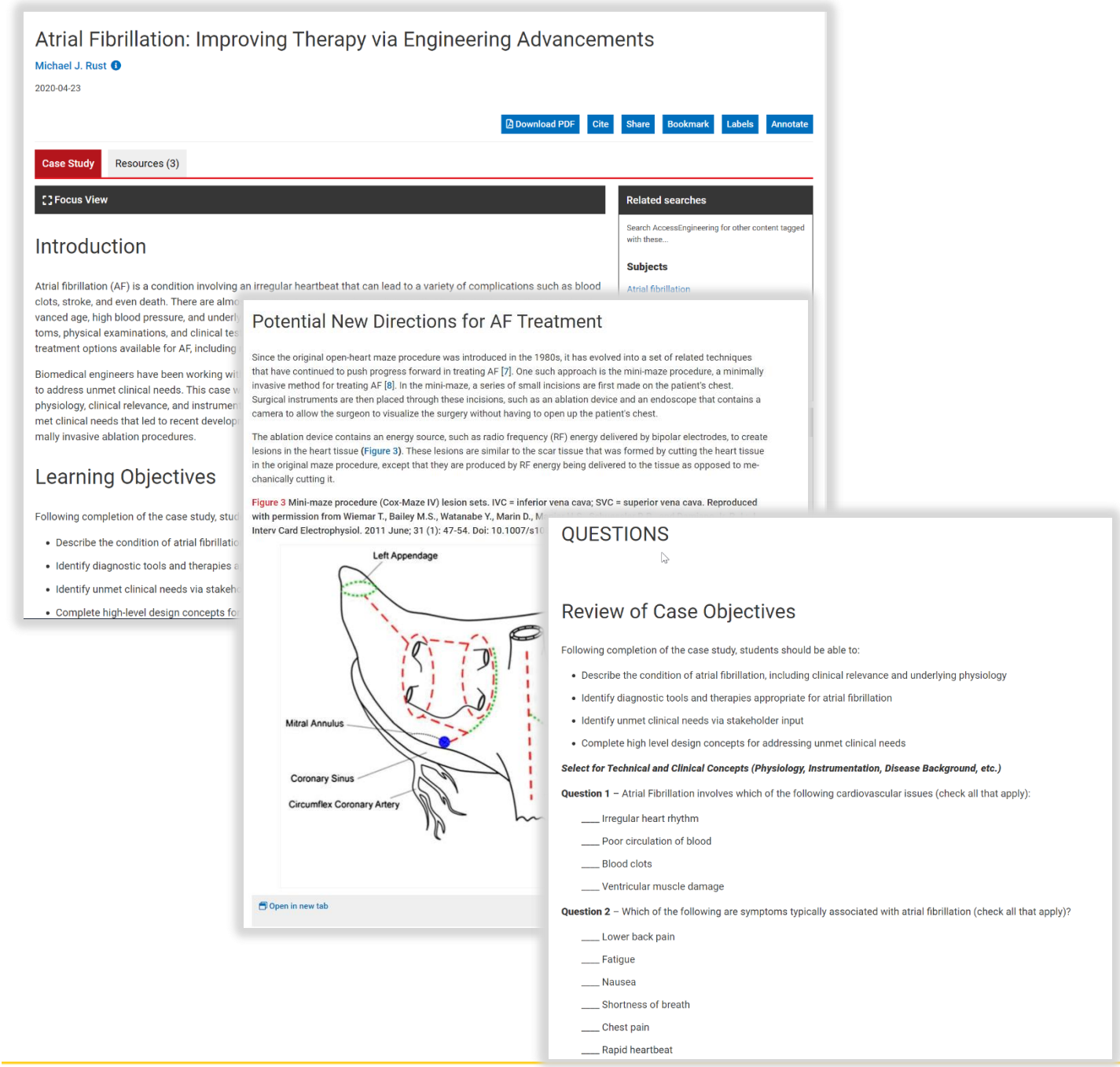


Case Studies

AccessEngineering's case studies include problem sets, solutions, and instructor's guide: all mapped to ABET objectives. Case studies are available for biomedical, environmental and other engineering disciplines and can be easily adapted to use in a wide range of courses.

Case Studies include an introduction to the case, learning objectives, the case mission, prerequisites, the case itself, review questions, references, and more.

Cases also include instructor resources, such as solutions and an instructor guide. To request access to these resources, follow the instructions on the Resources Tab section on page 11 of this guide.



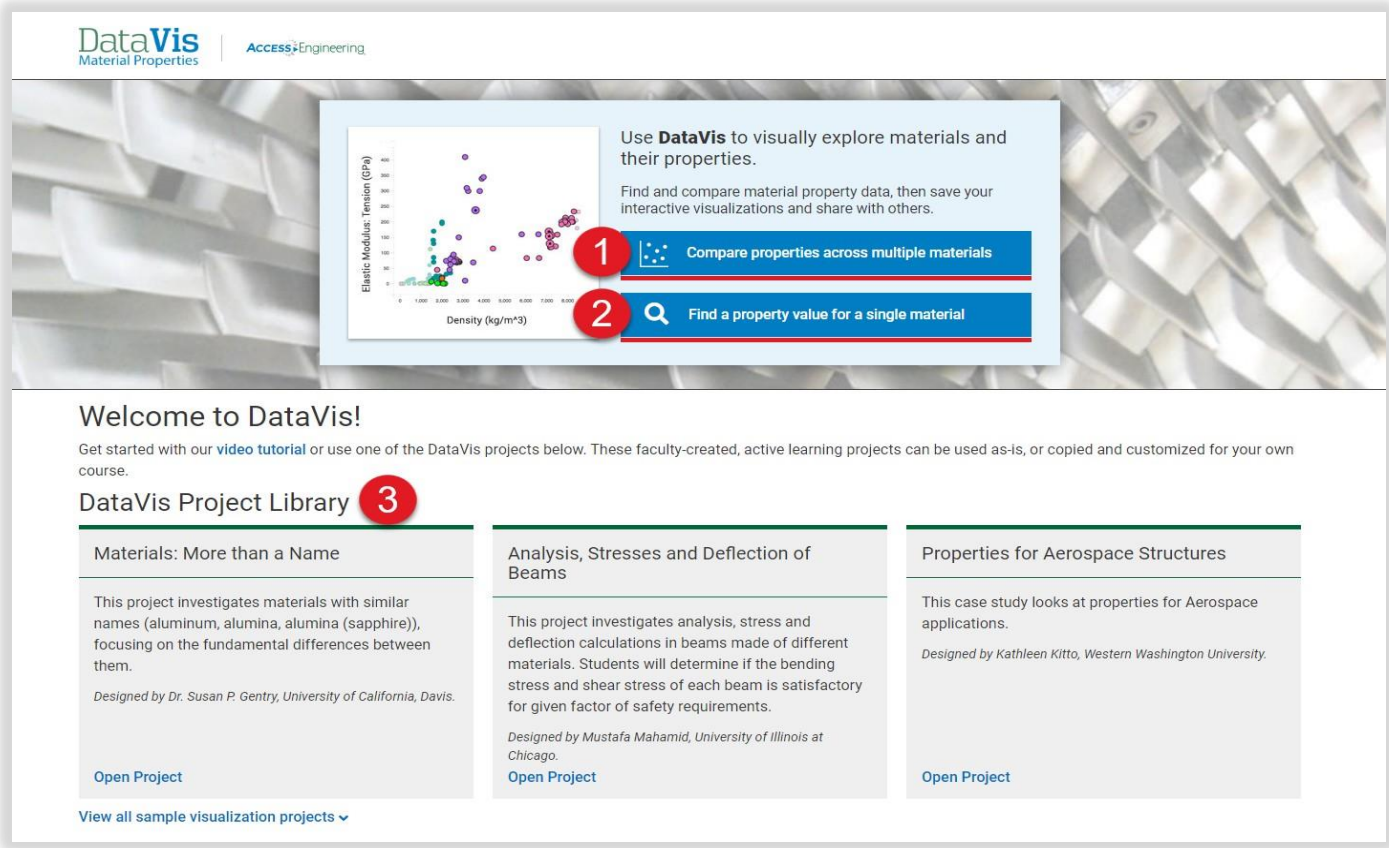
DataVis

Designed by faculty, AccessEngineering's DataVis is the interactive, web-based data visualization tool that transforms the way students learn about material properties. DataVis instantly displays property data in interactive dot-plots and scatterplots across a wide range of materials. Our carefully curated dataset of more than 200 materials and 65 properties—including cost—provides students with enough data to learn about material properties without overwhelming them.

The DataVis User Guide provides a comprehensive overview of DataVis. A brief overview of DataVis is included in the following pages.

Features of AccessEngineering's DataVis include:

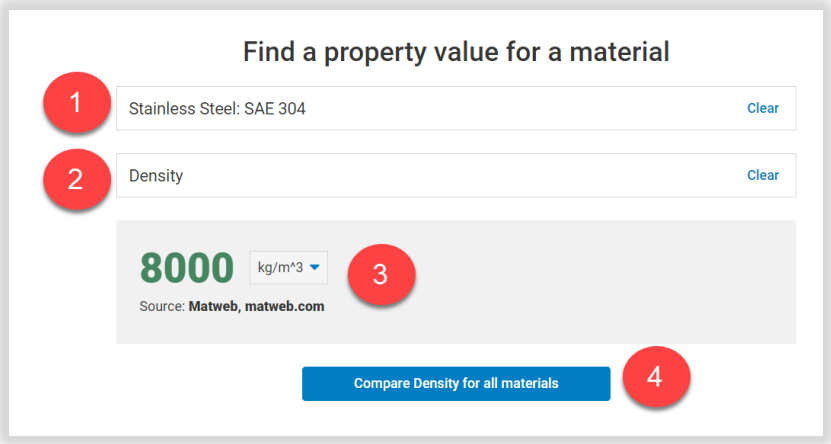
1. Compare properties across multiple materials in an interactive scatterplot
2. Find a property value for a single material and view it in an interactive dot-plot
3. Open a sample project from the DataVis library of pre-existing, faculty-created projects

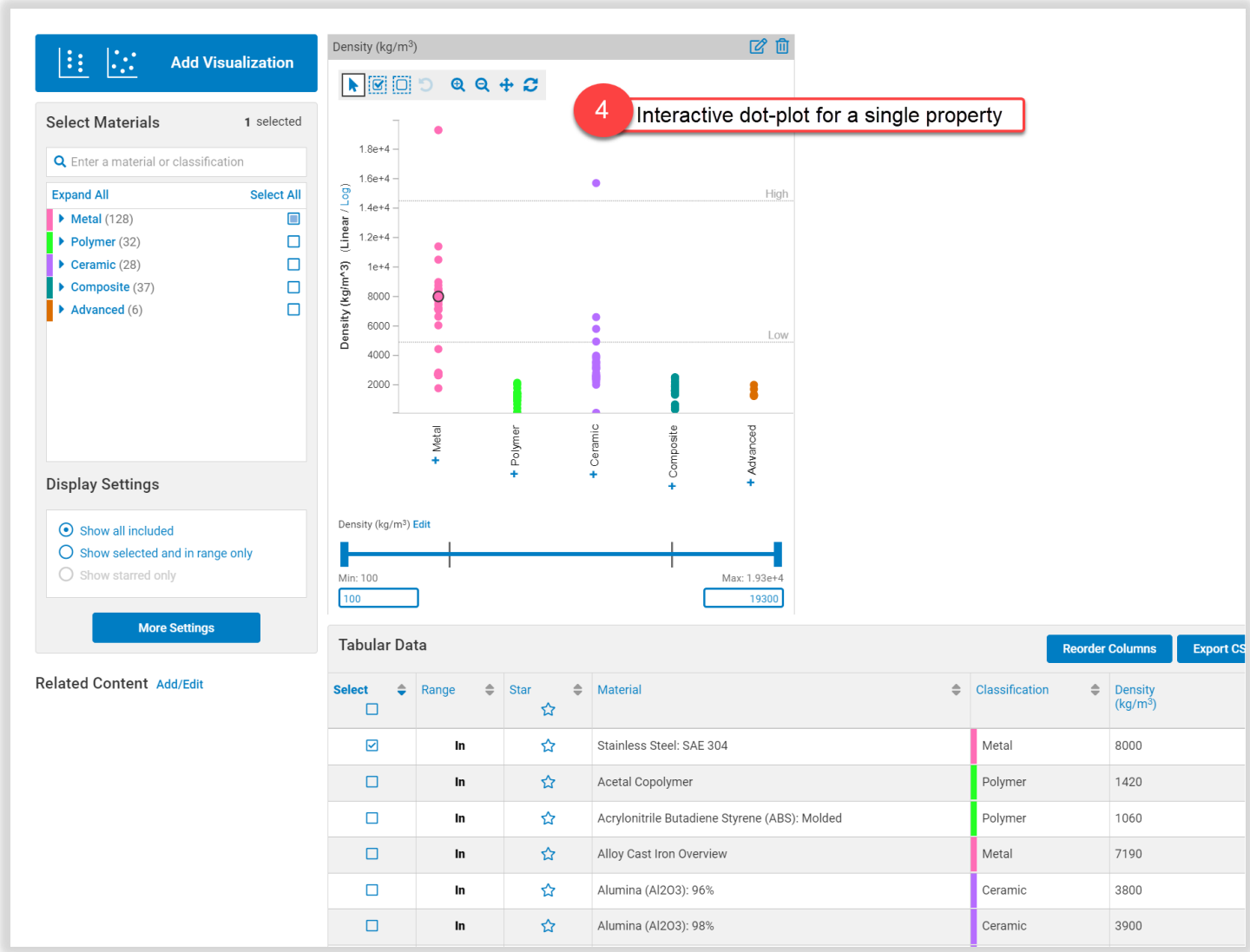


DataVis

To find a property value for a single material:

1. Search for a material. Typeahead suggests specific materials.
2. Search for a property. Typeahead suggests specific properties.
3. View the value. Users can also change the unit of measurement and see sources for the value.
4. Click “Compare [value] for all materials” to open an interactive dot-plot for the selected property



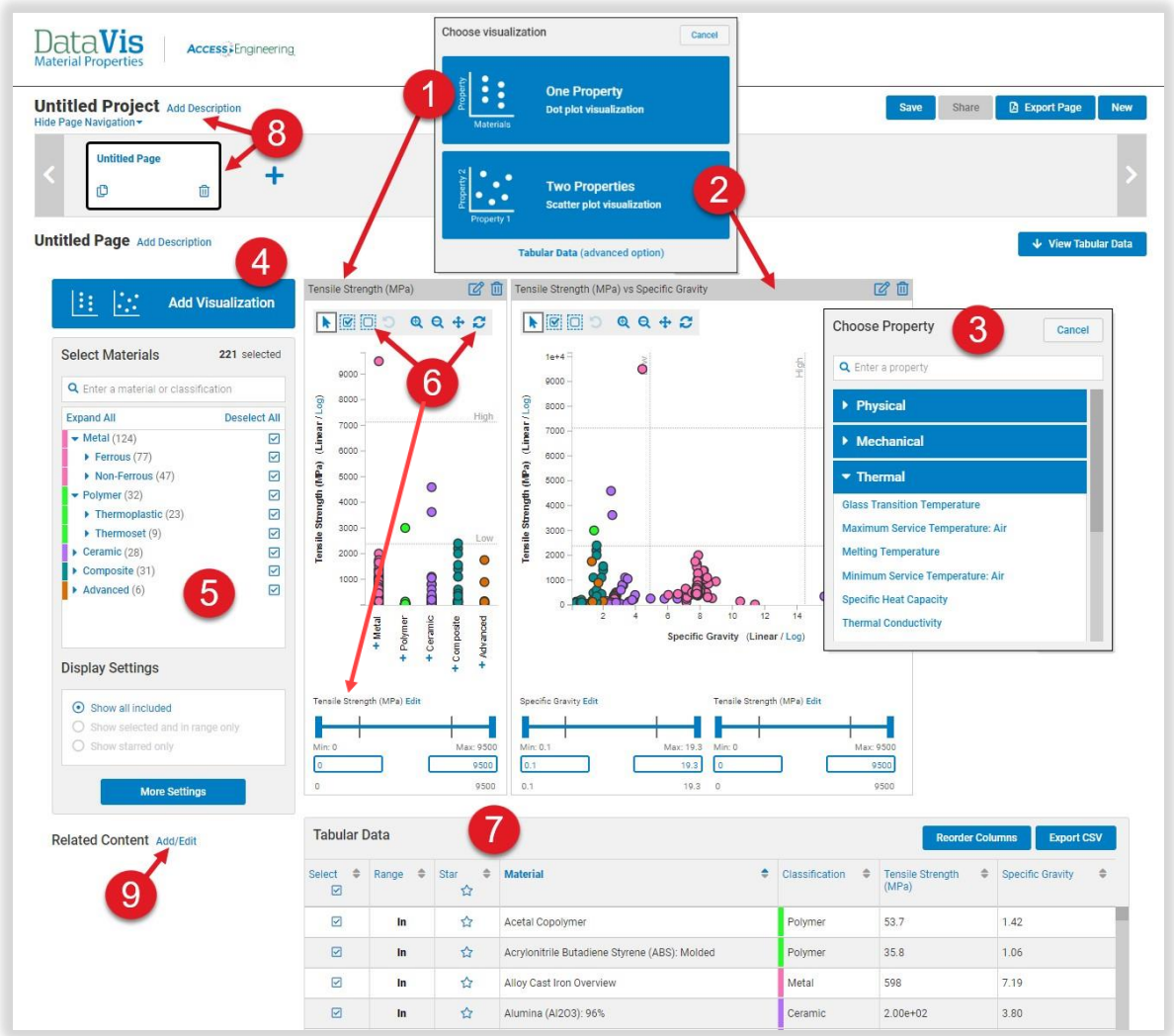


DataVis

To compare properties across multiple materials, users can click to edit an existing dot-plot, edit a DataVis project, or click “Compare properties across multiple materials” from the DataVis landing page.

To compare properties in DataVis:

1. Select the one property option to view a dot-plot OR
2. Select two properties to view a scatterplot
3. Choose one or two properties from the list provided. Users can search this list using the search bar
4. Optional: Add additional visualizations (dot-plots or scatterplots) to add to the project
5. Select specific materials. Materials can be browsed across material categories or users can search for materials in the search bar.
6. Select materials in a certain range using the plot toolbar at the top or the sliding scale and min/max input at the bottom
7. View, reorder, or export tabular data on the materials and properties selected
8. Add descriptions and additional pages to create a project to save or share. Users must be signed in to their AccessEngineering account to save DataVis projects.
9. Add related content, from AccessEngineering or elsewhere, for reference or further reading

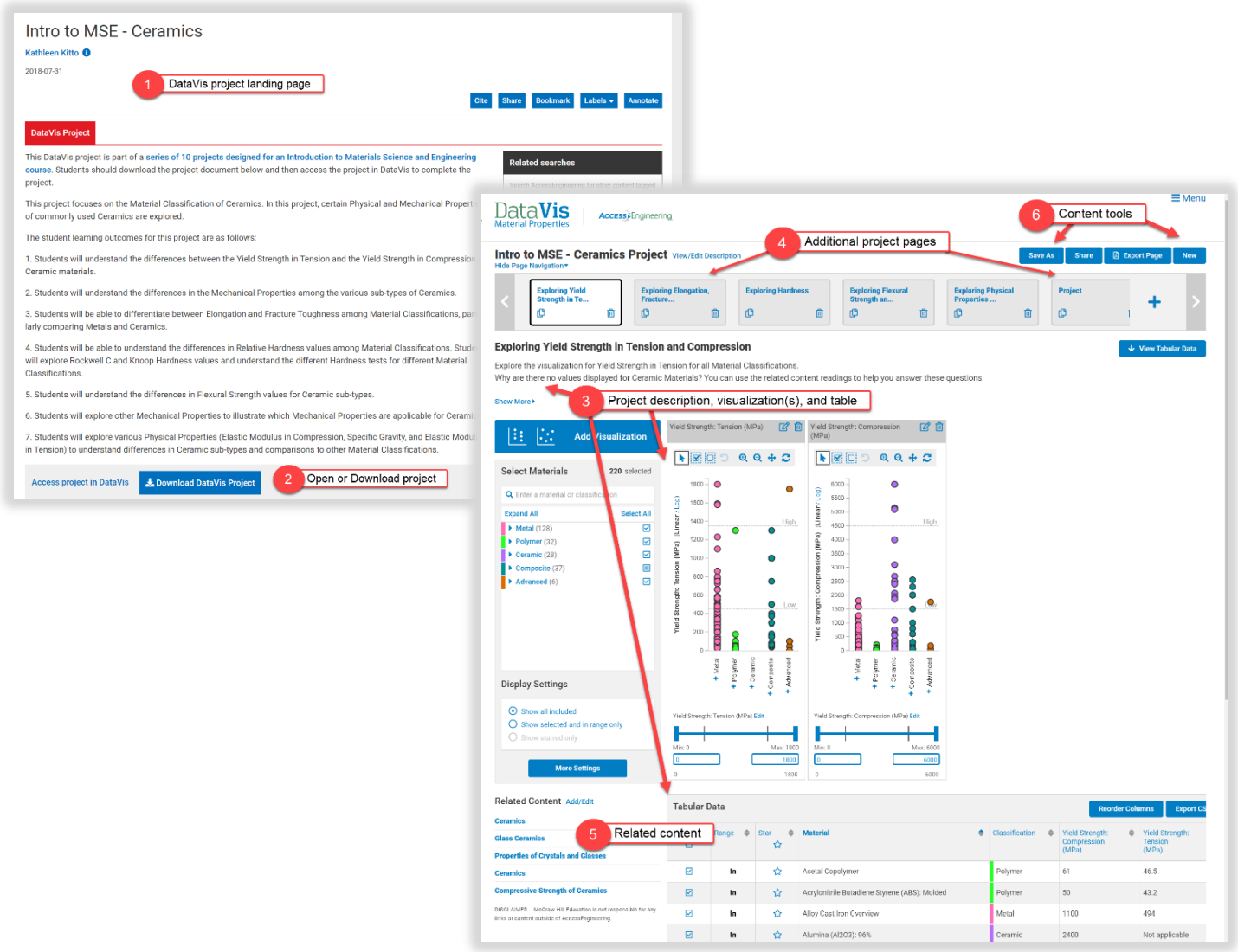


DataVis

AccessEngineering's DataVis project Library includes 25+ faculty-created, active learning projects that can be used as-is or copied and customized for faculty's own courses.

To the left is an example of a pre-existing project:

1. Projects have their own landing page, which includes author information, a description of the project, and other key information
2. From the landing page, users can click to open the project in DataVis. They can also click Download DataVis Project to download a Word document template with project questions to answer and hand in to their instructor.
3. View the project description, visualization, and table
4. Explore additional project pages, each with their own interactive dot-plots or scatterplots
5. View related content, as inputted by the project creator. Instructors can link to AccessEngineering content or external content
6. Use content tools. These include "save as" so users can save an existing project as a new project and customize it, share the project, export the page, and create a new project.



Annotations

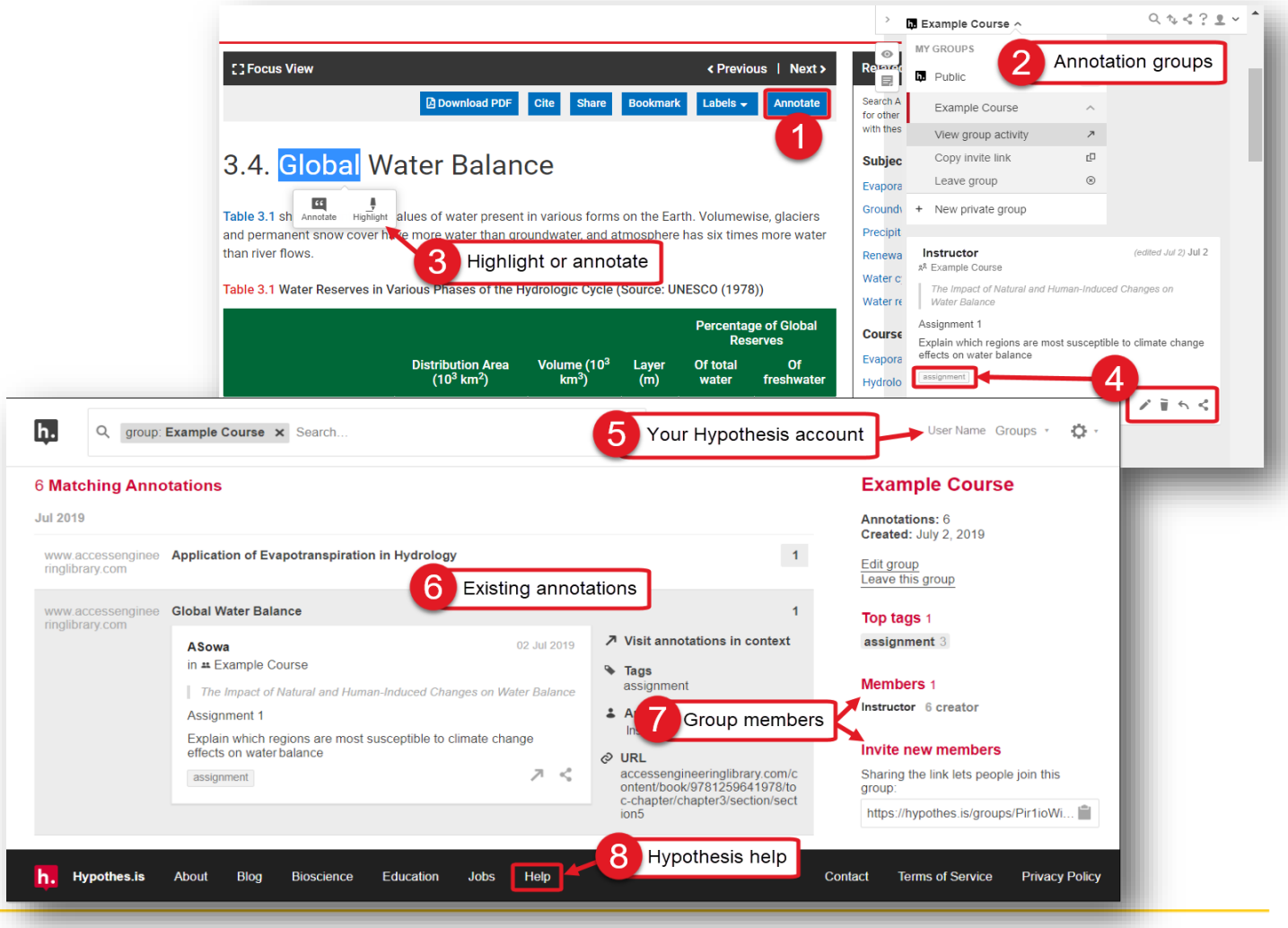
AccessEngineering has teamed up with Hypothesis to enable highlighting and annotation on the site. Hypothesis is an open source annotation tool that can be used across any digital resource. Create a free Hypothesis account to save and access annotations in AccessEngineering.

To annotate in AccessEngineering:

1. Click the Annotate button from any content page to open the Hypothesis toolbar
2. Choose a group to share annotations with or save to your personal account
3. Select text to highlight or add an annotation
4. Categorize annotations with tags, edit or delete your annotations, or reply to annotations in a group

To manage annotations in a Hypothesis account:

5. Click on your account to see all your annotations across different resources or across different groups
6. View annotation content and link to visit in context
7. Display current group members or invite new members with the shareable link
8. Get additional help from Hypothesis FAQs and tutorials



Personal Account

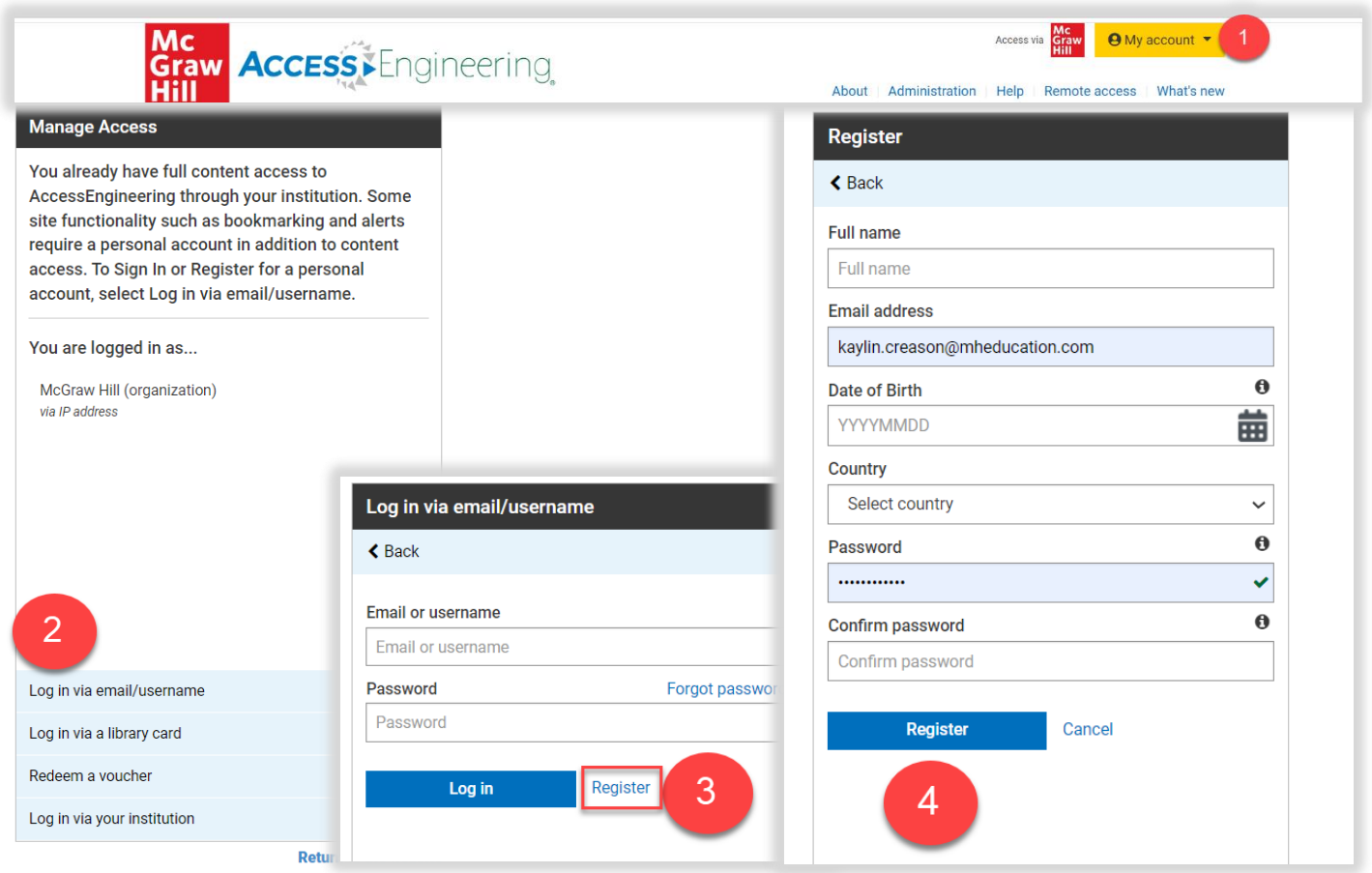
A free personal account on AccessEngineernig gives you access to several personalization features on AccessEngineering, including the ability to bookmark content, label content, and save and customize DataVis projects. Personal accounts are an optional feature and are not required to view or use any of the content on the site. Personal accounts do not replace authentication via your institution; you must first be logged in through your institution to use AccessEngineering.

Users who are signed into their AccessEngineering personal account will see a variety of options in their My Account dropdown. By clicking into their account, users will be able to:

- Manage alerts for when new books are added to the site or when changes are made to selected spreadsheets
- Manage and browse their bookmarks
- Manage, browse, and edit alerts for saved searches
- Organize content by creating and applying one or more labels to content items
- Open Hypothesis to access annotations
- View, edit, and share DataVis projects

To create an AccessEngineering account:

1. Click My Account in the upper right-hand corner of any page on AccessEngineering
2. Click login via email/username
3. Click Register
4. Enter the required information and click Register

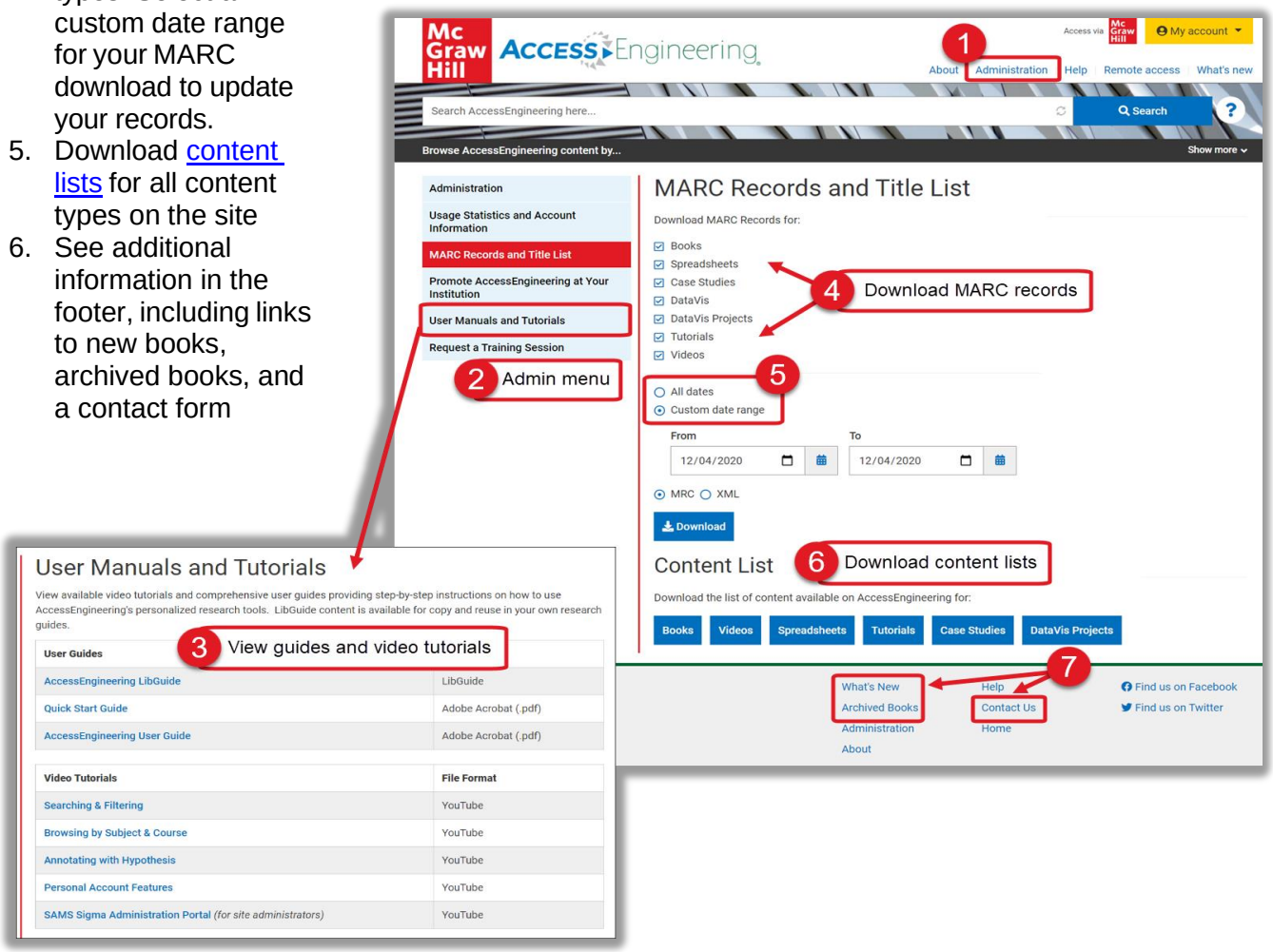


Administration

The Administration page contains a wealth of resources for using and promoting AccessEngineering at your institution.

Features of the Administration page include:

1. Access the Administration page from anywhere on the site using the header link
2. Use the Admin menu to find information on usage statistics, get promotional materials and user manuals, or attend an upcoming training session. Custom training is also available by emailing customersuccess@mheducation.com
3. User manuals and tutorials include brief videos on using site features and content, as well as an AccessEngineering LibGuide which is available to copy and share to your own LibGuides
4. Download MARC records for all content types. Select a custom date range for your MARC download to update your records.
5. Download content lists for all content types on the site
6. See additional information in the footer, including links to new books, archived books, and a contact form

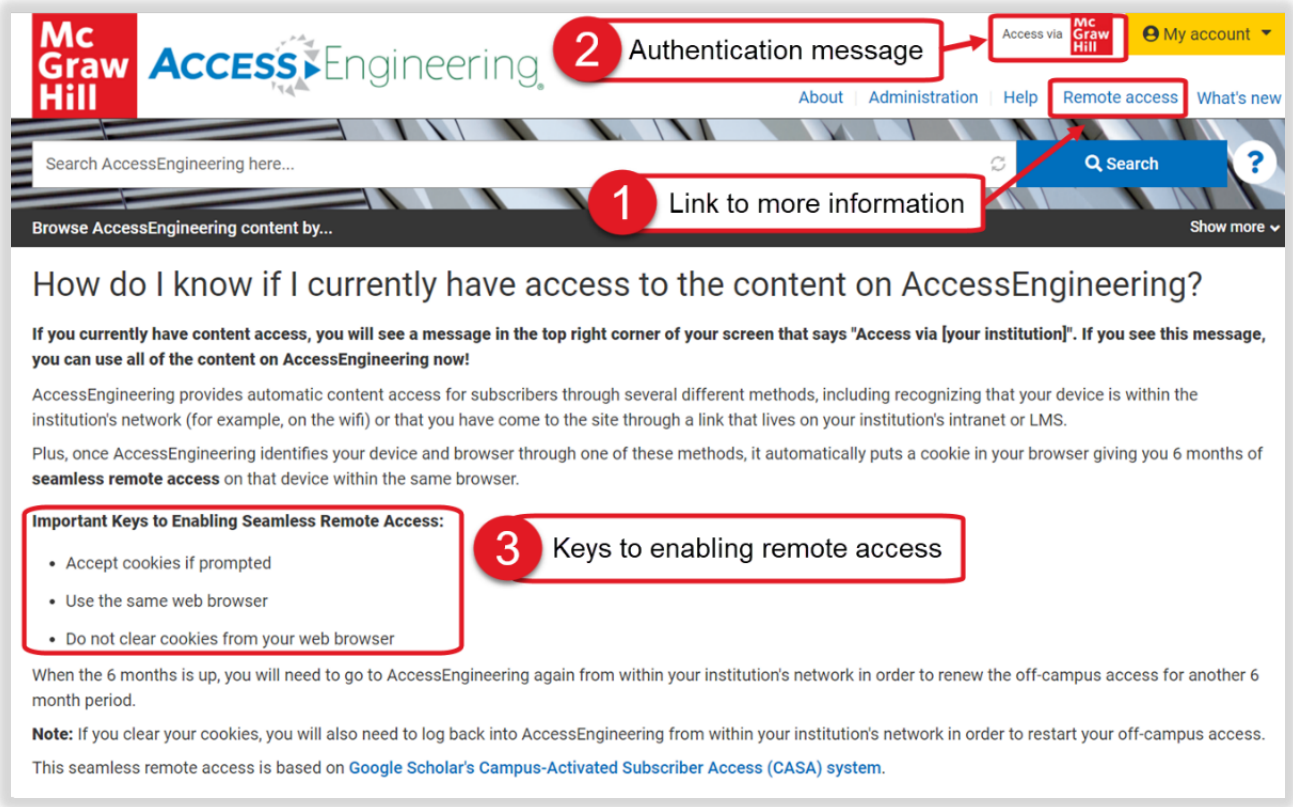


Remote Access

Users can access AccessEngineering wherever they are with AccessEngineering's remote access feature. This feature is available for institutions that provide access via an IP range (e.g. wifi or VPN) or referrer URL. Once AccessEngineering identifies (e.g. authenticates) a user's device and browser through one of these methods, it automatically puts a cookie in the user's browser giving them 6 months of seamless remote access on that device within the same browser.

For more information on Remote Access:

1. Use the header link to view information on Remote Access
2. Check if you have been authenticated by looking for the "Access via [your institution]" message
3. Make sure to accept cookies if prompted and do not clear cookies from your browser



***Note**:* Users will need to access their institution's subscription to AccessEngineering via an IP range or referral URL once every 6 months to maintain seamless access.

Need help?

Visit our help page or contact us at customersuccess@mheducation.com with questions, troubleshooting, admin credentials, or requests for custom training.