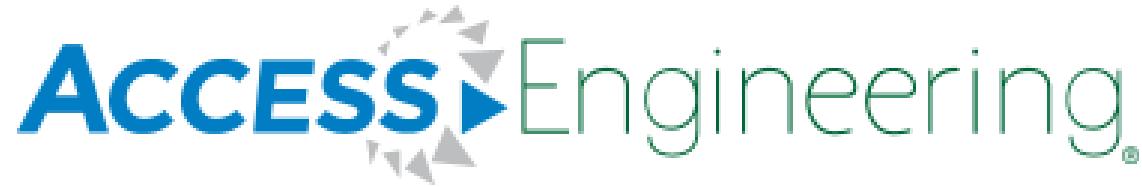


Because learning changes everything.®

## Access Engineering

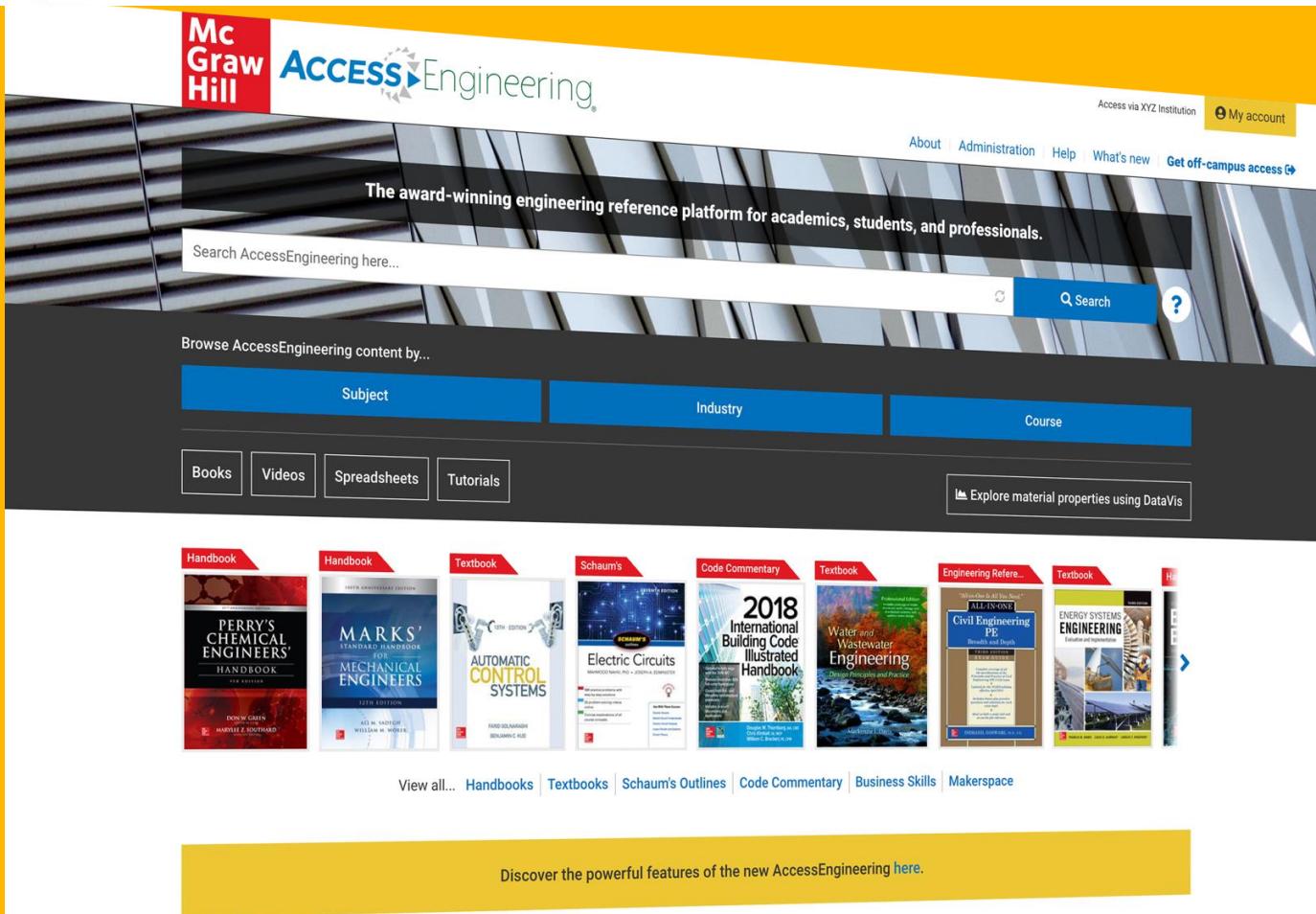
Unlimited access to trusted,  
interdisciplinary engineering  
content





AccessEngineering 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.



The screenshot shows the AccessEngineering platform homepage. At the top, the McGraw-Hill and AccessEngineering logos are displayed. The main header reads: "The award-winning engineering reference platform for academics, students, and professionals." Below the header is a search bar with the placeholder "Search AccessEngineering here...". The navigation menu includes links for "About", "Administration", "Help", "What's new", and "Get off-campus access". The main content area features a "Browse AccessEngineering content by..." section with tabs for "Subject", "Industry", and "Course". Below these tabs are buttons for "Books", "Videos", "Spreadsheets", and "Tutorials". A callout box for "DataVis" says "Explore material properties using DataVis". A grid of engineering reference books is shown, including titles like "PERRY'S CHEMICAL ENGINEERS' HANDBOOK", "MARKS' STANDARD HANDBOOK FOR MECHANICAL ENGINEERS", "AUTOMATIC CONTROL SYSTEMS", "Schaum's Electric Circuits", "2018 International Building Code Illustrated Handbook", "Water and Wastewater Engineering", "Engineering Reference", and "CIVIL ENGINEERING PE". At the bottom of the page, a yellow bar encourages users to "Discover the powerful features of the new AccessEngineering [here](#)".

- ✓ Provides students with digital editions of leading upper-level engineering textbooks
- ✓ Includes **4,000+** interactive graphs and downloadable tables
- ✓ **40+** spreadsheet calculators with **500+** equations
- ✓ **900+** exclusive instructional videos
- ✓ **700+** eBooks to integrate into any engineering curriculum
- ✓ Features access to McGraw-Hill's award-winning data visualization tool - DataVis™ - specifically designed for teaching material properties

The award-winning engineering reference platform for academics, students, and professionals

Search AccessEngineering here...

 Find content quickly with intelligent search functionality

Browse AccessEngineering content by...

Subject

Industry

Course

Books

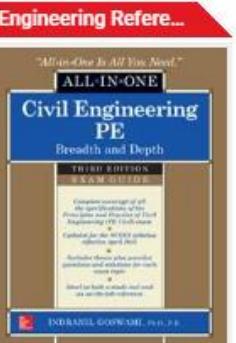
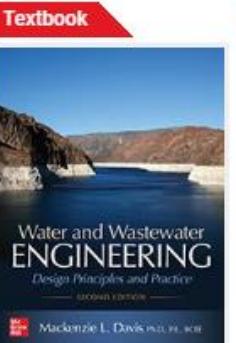
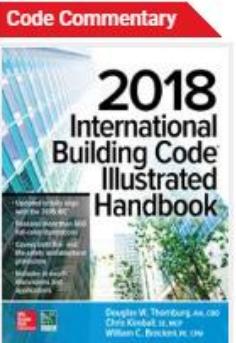
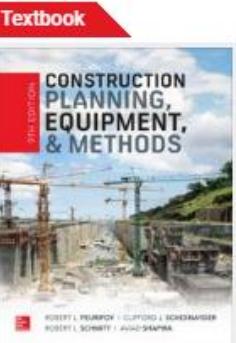
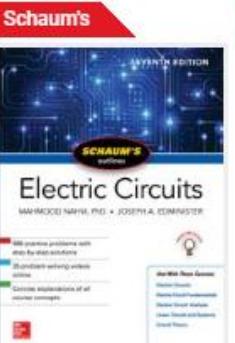
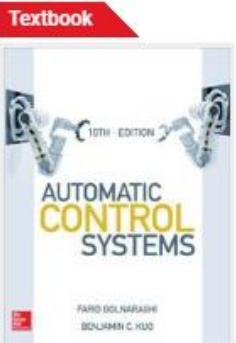
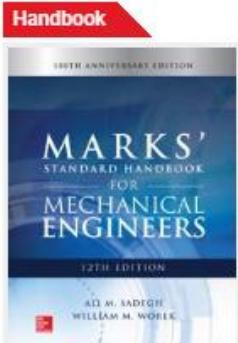
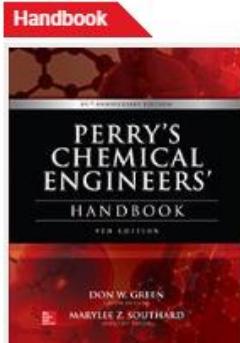
Videos

Spreadsheets

Tutorials

**Browse by subject,  
industry, or course**

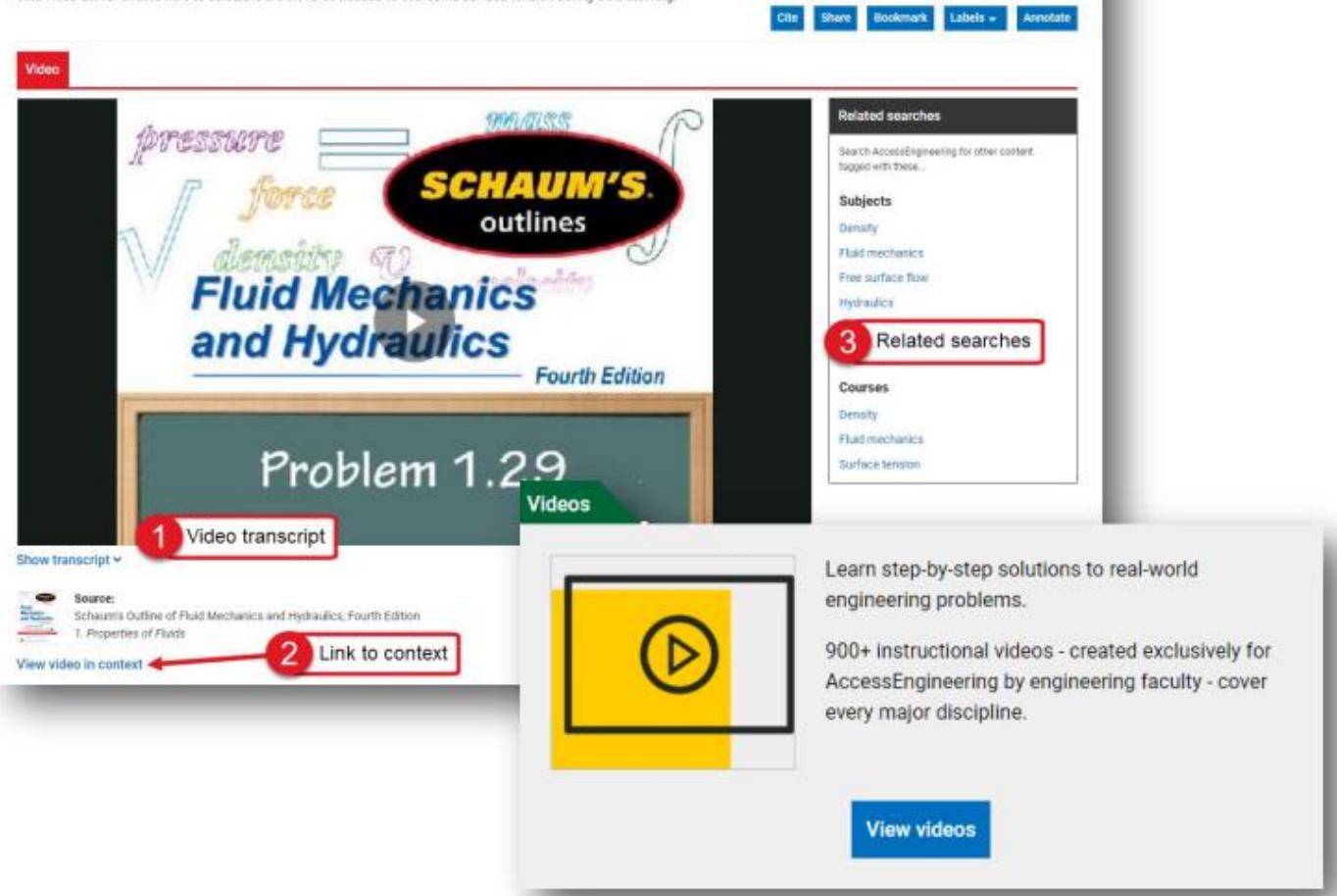
 Explore material properties using DataVis



## Schaum's Fluid Mechanics and Hydraulics Problem 1-29: Surface Tension

Thom Adams, Ph.D., Professor, Mechanical Engineering, Rose-Hulman Institute of Technology

This video demonstrates how to calculate the lift force needed to overcome surface tension acting on a thin ring.



The screenshot shows a video player interface for a problem from the Schaum's Outline of Fluid Mechanics and Hydraulics, Fourth Edition. The video title is "Problem 1.29". The interface includes a "Video transcript" button (1), a "Link to context" button (2) with a red arrow pointing to the "View video in context" link, and a "View videos" button. A sidebar on the right contains "Related searches" (3), "Subjects" (Density, Fluid mechanics, Free surface flow, Hydraulics), and "Courses" (Density, Fluid mechanics, Surface tension).

**AccessEngineering** has **over 900 instructional videos** created by engineering faculty that show step-by-step solutions to example problems. A list of all videos can be found in the interactive tools section of the homepage, or by clicking the videos button at the top of the homepage. Videos are highlighted as a content type on the content tabs of search results and the top of book content pages.

## Content: Spreadsheets

**Spreadsheets**

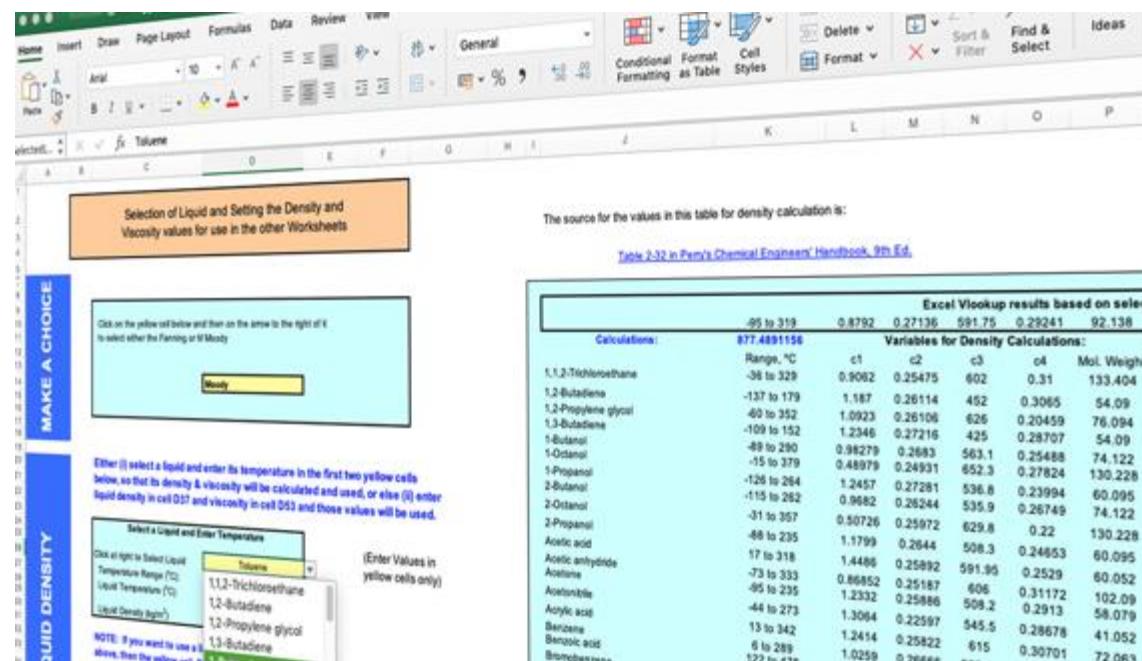


Save time and ensure accuracy by using our calculator tools to solve frequently used engineering equations.

These Excel templates embed data and formulas to streamline complex calculations.

[View spreadsheets](#)

**AccessEngineering**'s Excel spreadsheet calculators contain embedded data and formulas to streamline complex calculations. Spreadsheet calculators have their own landing page and taxonomy terms. A list of available spreadsheets can be found in the interactive tools section of the homepage.



The source for the values in this table for density calculation is:

Table 2-32 in Perry's Chemical Engineers' Handbook, 9th Ed.

**Excel Vlookup results based on selected Calculations:**

Range, °C	c1	c2	c3	c4	Mol. Weight	
-95 to 319	0.8792	0.27136	591.75	0.29241	92.138	
877.4891156						
1,1,2-Trichloroethane	-95 to 319	0.9082	0.25475	602	0.31	133.404
1,2-Butanediol	-137 to 179	1.187	0.26114	452	0.3065	54.09
1,3-Propanediol	-60 to 352	1.0923	0.26106	626	0.20459	76.094
1,3-Butanediol	-109 to 152	1.2346	0.27216	425	0.28707	54.09
1-Butanol	-89 to 290	0.98279	0.2683	563.1	0.25488	74.122
1-Octanol	-15 to 379	0.48979	0.24931	652.3	0.27824	130.228
1-Propanol	-128 to 264	1.2457	0.27281	536.8	0.23994	60.095
2-Butanol	-115 to 262	0.9862	0.26244	535.9	0.26749	74.122
2-Octanol	-31 to 357	0.50726	0.25972	629.8	0.22	130.228
2-Propanol	-60 to 235	1.1799	0.2644	508.3	0.24653	60.095
Acetic acid	17 to 318	1.4486	0.25892	591.95	0.2529	60.052
Acetic anhydride	-73 to 333	0.86452	0.25187	606	0.31172	102.09
Acetone	-95 to 235	1.2332	0.25886	508.2	0.2913	58.079
Acrylic acid	-44 to 273	1.3064	0.22597	545.5	0.28678	41.052
Benzene	13 to 342	1.2414	0.25822	615	0.30701	72.061
Benzolic acid	6 to 289	1.0259	0.25822			
Butanobutanone	129 to 214					

## Content: Graphs & Tables

**Graphs & Tables**

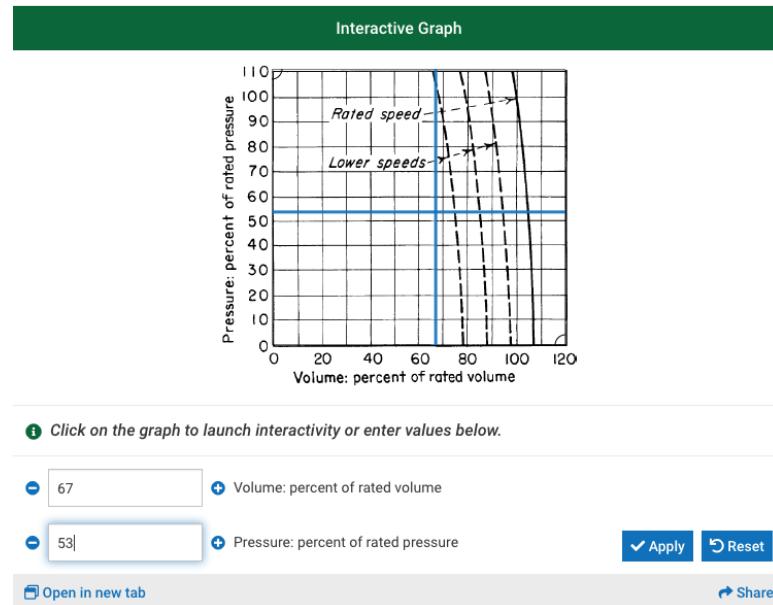


Analyze key data quickly and accurately. Thousands of interactive graphs and downloadable tables make it easy to analyze essential engineering data and confidently use it in real-world projects.

[View graphs](#) [View tables](#)

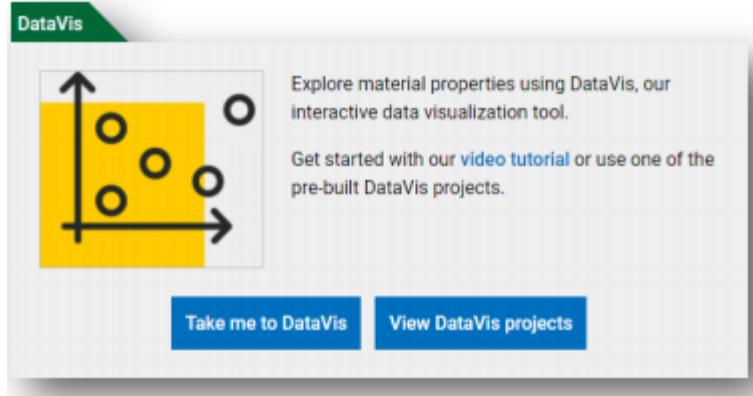
Interactive graphs and downloadable tables help users visualize and analyze data. From the homepage, scroll down to the interactive tools section and click the button to view all available graphs or tables. Graphs and tables also appear as individual items in search results and within the context of book sections.

**Figure 10-82** Approximate performance curves for a rotary positive-displacement compressor. The safety valve in discharge line or bypass must be set to operate at a safe value determined by construction.



Graphs and tables can be viewed in context or in a separate browser tab. Click Share to generate a URL to link directly to a particular graph or table

## Content: DataVis



DataVis is AccessEngineering's powerful data search and visualization tool for material properties.

Designed by faculty, DataVis displays property data in interactive dot-plots and scatterplots across a carefully curated dataset of over 200 materials and 65 properties.

This web based tool allows students to:

- Provides students with the data they need to understand material properties.
- Compare the range of each property within material classifications.
- Understand the variation of properties both within and across material classifications.
- Visualise how some properties differ by many orders of magnitude while others do not.
- Translate design goals and constraints while understanding how material properties intersect with these goals.
- Compare multiple properties that influence engineering design simultaneously.
- Factor cost into material selection.

## Annotations



### 1.0. CHAPTER PRELIMINARIES

Marylee Z. Southard, Ph.D. Associate Professor of Chemical and Petroleum Engineering, University of Kansas; Senior Member, American Institute of Chemical Engineers; Member, American Society for Engineering Education

For annotating content on AccessEngineering, we've teamed up with Hypothesis, 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 and across any other websites you use.

To annotate in AccessEngineering:

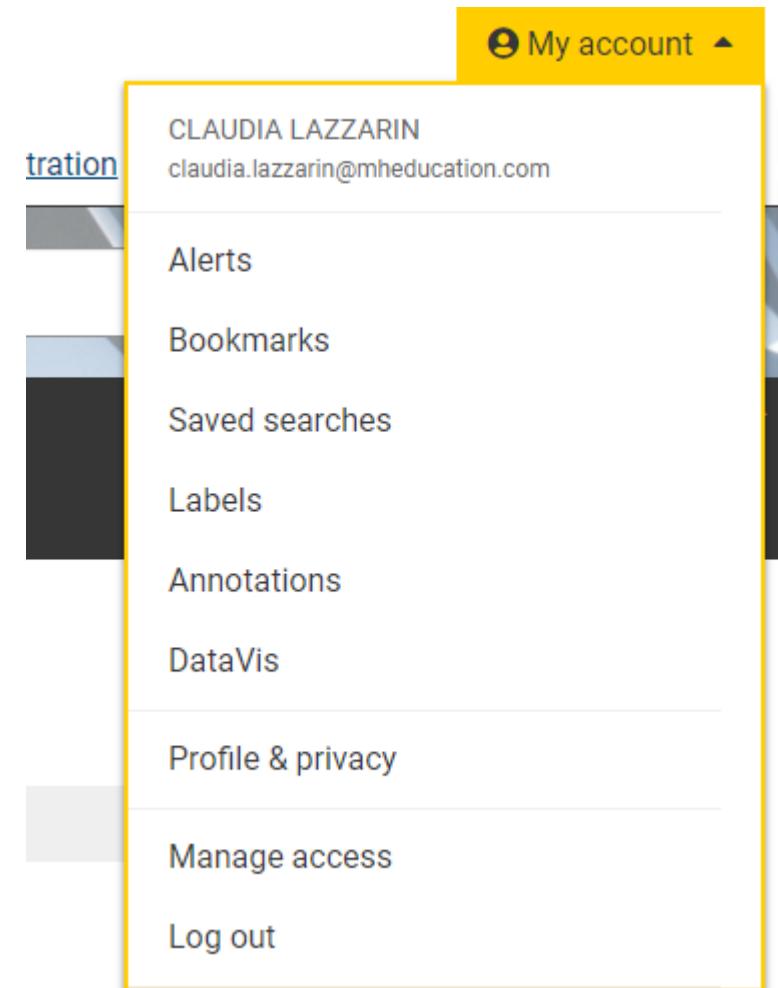
1. Click the Annotate button from any content page to open the Hypothesis toolbar
2. Choose a group to share annotations with or save to your personal account
3. Select text quickly highlight or add an annotation
4. Categorize your annotations with tags, edit or delete your annotations, or reply to annotations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

## Personal Account

AccessEngineering has several features which are available only after signing up for a free personal account. 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.

Personal account features include:

- ✓ Create alerts for saved searches, new content or spreadsheet updates
- ✓ Add bookmarks or labels to content to organize and easily retrieve content
- ✓ Select your interests to receive updates when new content is added in those areas



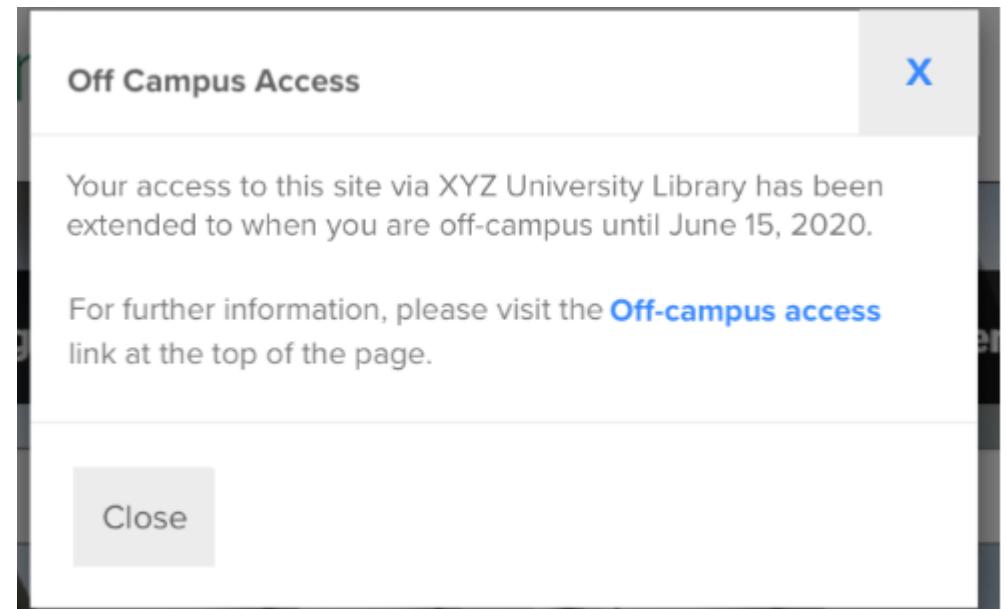
## Off-campus Access

If your institution provides access to AccessEngineering via an IP range, you can now use AccessEngineering even when you are off-campus without having to first log in to your institution's network.

The first time you use AccessEngineering from within your institution's network, the system will recognize your device as being within the IP range and inform you that you have been granted 6 months of off-campus access to the site via your institution's subscription.

When the 6 months is over you will need to go to AccessEngineering again from within your institution's network in order to renew the off-campus access for another 6 month period.

**Note:** If you clear your cookies, you will also need to log back into AccessEngineering from within your university network in order to restart your off-campus access.

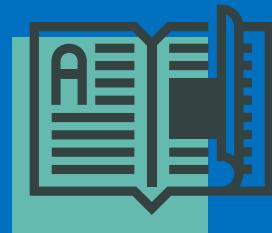


## Used by educators and learners worldwide

“AccessEngineering provides a great platform for students to conduct the required research to complete real-world problems.”

Dr. Carlotta Berry  
Associate Professor of Electrical and Computer Engineering  
Rose-Hulman Institute of Technology

## Delivering an enhanced learning experience



Prepares students to solve real-world problems and provides access to upper-level textbooks at no additional cost



Enables faculty to integrate practical resources into their courses



Helps professionals find relevant information faster, driving increased ROI



[AccessEngineeringLibrary.com](http://AccessEngineeringLibrary.com)