



**Find it!**

# **Online resources for Engineers and Materials Scientists**

**MAT4444: Transferable Skills for  
Engineers and Materials Scientists**

School of Engineering and Materials Science

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**[www.library.qmul.ac.uk](http://www.library.qmul.ac.uk)**

# S&E Teaching & Learning Support Team



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**James Soderman** – Faculty Liaison Librarian  
for Science and Engineering

**Victoria Hart & Natasha Burbridge**  
– Information Assistants

# Did you know?

2000: roughly 550 billion individual documents online

From: Bergman JK. **White paper: the deep web : surfacing hidden value.** J Electron Publ. [internet]. 2001 [cited in 8 July 2015]; 7(1). Available at: DOI: <http://dx.doi.org/10.3998/3336451.0007.104>

# This session

After this session you should be able to:

- Identify keywords and build a search strategy
- Find and use the Library Discovery tool and Knovel.
- Identify high-quality information resources including research articles and text books.





It can feel like a big adjustment coming to grips with how to find and use information at university level; it may be very different to your previous experiences...

# Your reading...

Some of you will be presented with a primary reading resource. This resource is excellent for acquiring an understanding of the key themes within your courses.

The library has extensive resources that can enhance your learning and help with further explanation of concepts, and supply material which could expand your understanding beyond your textbook.



# Your reading...

While others will very soon encounter journal articles with original research which you will need to come to grips with.

The library has lots of resources to enhance your learning from this perspective too...





# Preparing for research



Most of the time information does not find you... it is up to you to find the information

For a successful start you will need to define the area you want to research and then extract keywords





**Exercise: Defining Keywords**

# Title of your first assignment

Report on the **force-extension** **behaviour** of  
a **polymer**

Polymers, commonly called plastics, are artificial products that are not available in nature.

From: Ghosh A. Technology of Polymer Packaging. Munich ; Cincinnati, Ohio: Hanser Publishers; 2015.



**What did you come up with?**

**Go to [www.govote.at](http://www.govote.at) and  
use the code **50 39 53** and  
contribute to the word  
cloud!**



# Developing a Search Strategy

Identify important concepts and choose **keywords**

- This will include **synonyms**  
e.g. polyethylene, polyethene, polymethylene
- and **related terms**  
e.g. thermoplastic, thermoplastic resin





# Searching the Web

Using a **search engine** to search the Web has become by far the most common method of locating information about a subject

# Searching the Web

However, there is no **quality control** mechanism for publishing on the Web, with anyone being able to publish online

While there is a great deal of high-quality information available either free or for a fee, much online content is of **poor quality**







The vast majority of online information is not indexed by search engines (the so-called **Hidden or Deep Web**) including the contents of **library catalogues** and **online databases** such as Web of Science or Knovel

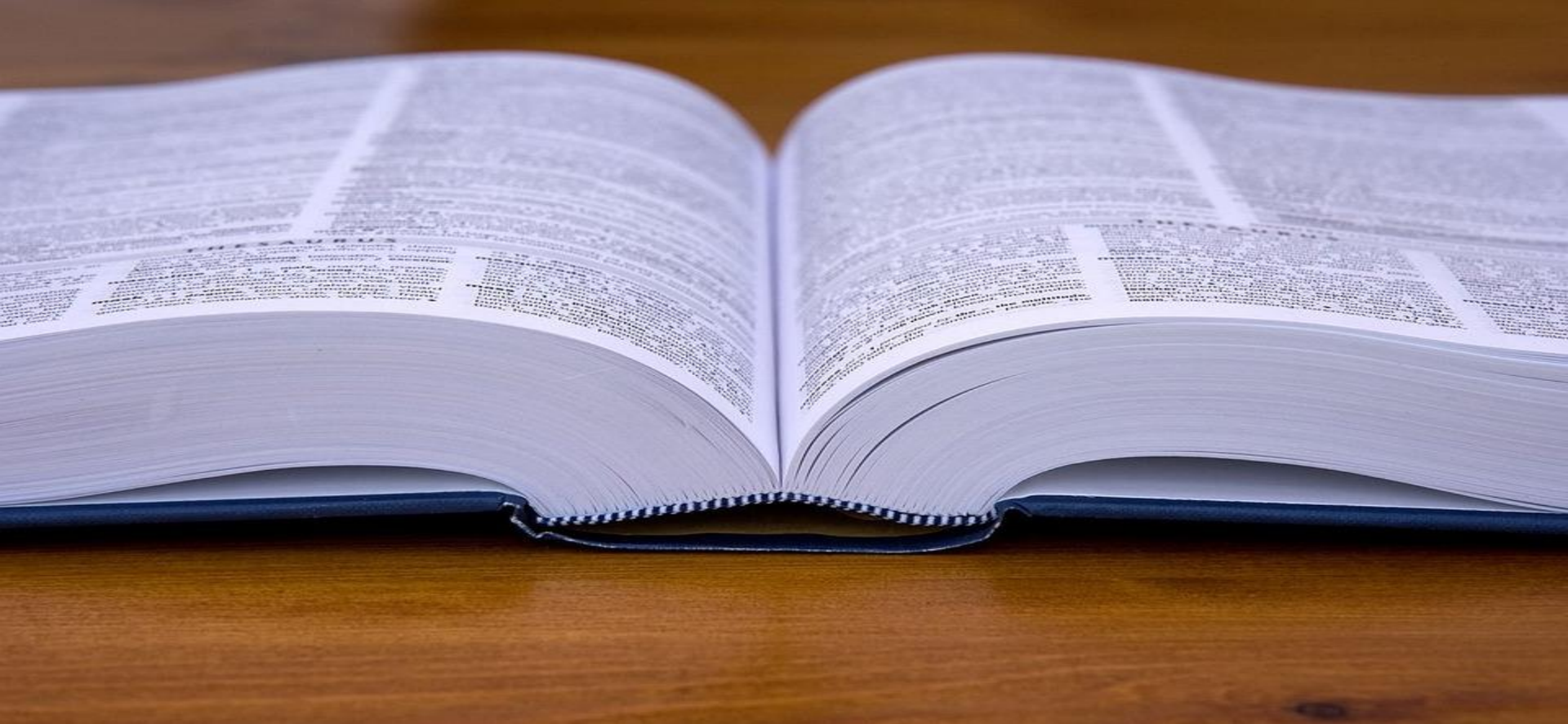
This information must be accessed directly



## Google

**Google** is good at what it does, but, like all search engines, *it doesn't cover everything*

**Always** make use of other search tools such as the Library Discovery tool and Knovel



For ***basic information*** that will help you to get started and understand the essential concepts why not try an ***encyclopaedia***.



# Wikipedia



[Create account](#) [Log in](#)

[Article](#) [Talk](#)

[Read](#)

[Edit](#)

[View history](#)



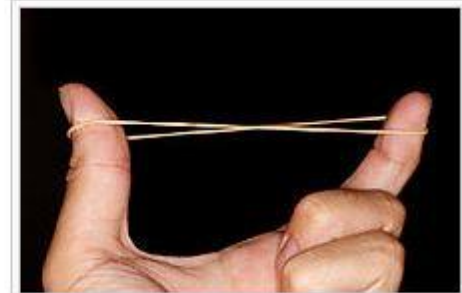
## Young's modulus

From Wikipedia, the free encyclopedia

**Young's modulus**, also known as the **tensile modulus** or **elastic modulus**, is a mechanical property of linear elastic solid materials. It measures the force (per unit area) that is needed to stretch (or compress) a material sample.

Young's modulus is named after the 19th-century British scientist [Thomas Young](#). However, the concept was developed in 1727 by [Leonhard Euler](#), and the first experiments that used the concept of Young's modulus in its current form were performed by the Italian scientist [Giordano Riccati](#) in 1782, pre-dating Young's work by 25 years.<sup>[1]</sup> The term modulus is the diminutive of the Latin term *modus* which means *measure*.

A solid body deforms when a load is applied to it. If the material is elastic, the



Rubber, a material with an extremely low Young's modulus





# Wikipedia

## ***Beware***

The quality of information on Wikipedia varies greatly, and *it is not a trusted, consistent or reliable source of academic information!*

Even **Wikipedia** tells you to be critical:

Users should be aware that not all articles are of encyclopedic quality from the start: they may contain false or debatable information.



Wikipedia:About

<https://en.wikipedia.org/wiki/Wikipedia:About>

[Accessed 14/03/2016]



# Wikipedia

## Note sections on *References* and *External Links*:

### References [\[edit\]](#)

1. <sup>^</sup> *The Rational Mechanics of Flexible or Elastic Bodies, 1638–1788: Introduction to Leonhardi Euleri Opera Omnia*, vol. X and XI, Seriei Secundae. Orell Fussli.
2. <sup>^</sup> In computer graphics visual effects, the terms *linear elastic material* and *rigid material* are used interchangeably if the Young's modulus is high.
3. <sup>^</sup> IUPAC, *Compendium of Chemical Terminology*, 2nd ed. (the "Gold Book") (1997). Online corrected version: (2006–) "modulus of elasticity (Young's modulus), *E*" [↗](#).
4. <sup>^</sup> [a b c d e f g h i j k l m n o p q r s t](#) "Elastic Properties and Young Modulus for some Materials" [↗](#). The Engineering ToolBox. Retrieved 2012-01-06.
5. <sup>^</sup> "Overview of materials for Low Density Polyethylene (LDPE), Molded" [↗](#). Matweb. Retrieved Feb 7, 2013.
10. <sup>^</sup> Polyester Matrix Composite reinforced by glass fibers (Fiberglass) [↗](#). [SubsTech] (2008-05-17). Retrieved on 2011-03-30.
11. <sup>^</sup> Kol, N. et al. (June 8, 2005). "Self-Assembled Peptide Nanotubes Are Uniquely Rigid Bioinspired Supramolecular Structures". *Nano Letters* 5 (7): 1343–1346. Bibcode:2005NanoL...5.1343K [↗](#). doi:10.1021/nl0505896 [↗](#).
12. <sup>^</sup> Niu, L. et al. (June 6, 2007). "Using the Bending Beam Model to Estimate the Elasticity of Diphenylalanine Nanotubes". *Langmuir* 23 (14): 7443–7446. doi:10.1021/la7010106 [↗](#).
13. <sup>^</sup> E-G-nu.htm "Composites Design and Manufacture (BEng) – MATS 324" [↗](#).
14. <sup>^</sup> Nabi Saheb, D.; Jog, JP. (1999). "Natural fibre polymer composites: a review". *Advances in Polymer Technology* 18 (4):

### Further reading [\[edit\]](#)

- ASTM E 111, "Standard Test Method for Young's Modulus, Tangent Modulus, and Chord Modulus," [2] [↗](#)
- The *ASM Handbook* (various volumes) contains Young's Modulus for various materials and information on calculations. [Online version](#) [↗](#)

### External links [\[edit\]](#)

- Matweb: free database of engineering properties for over 63,000 materials [↗](#)
- Young's Modulus for groups of materials, and their cost [↗](#)





# Going further!

At university level you'll also need in-depth information from academic books and journal articles that have been through the **peer-review process**

# What makes something peer-reviewed?



# Library Discovery

The Library Discovery Tool is a great way to find textbooks and journals in your subject area...

Library

Queen Mary University of London

SEARCH

HOME USING THE LIBRARY SELF SERVICE SUBJECT GUIDES RESEARCH ARCHIVES CONTACT US ABOUT US

Easily discover the world of library content

Search

Advanced Search

Useful links

Opening hours

Find Us

Ask Us

E-resources help

FAQs

QMPlus

PC availability

Searching

E-journals & Databases

Exam papers

Reading Lists Online

Archives Catalogue

New books

Queen Mary Research Online

Mile End Library



# Going Further - Library Discovery

The screenshot displays the Queen Mary University of London library discovery page. The search bar at the top contains the query "fluid dynamics". The results are sorted by relevance, showing 340,777 results. The left sidebar offers filters for "REFINE YOUR SEARCH" (Any, Full Text Online, Scholarly & Peer-Review, Library Catalog) and "DISCIPLINE" (Any, engineering, physics, applied science, chemistry, mathematics). The "CONTENT TYPE" section lists various document types with their respective counts. The main results area features "Database Recommendations" for MathSciNet and Web of Science, followed by a list of books. The first two results are "Fluid dynamics: Pt.B" and "Fluid dynamics: Pt.A" by Emrich, R.J. The right sidebar provides a definition of fluid dynamics from Wikipedia and lists related topics.

**Queen Mary University of London**

Search: "fluid dynamics"

340,777 results sorted by [relevance](#)

☐ Add results beyond your library's collection

**REFINE YOUR SEARCH**

- Any
- Full Text Online
- Scholarly & Peer-Review
- Library Catalog

**DISCIPLINE**

- Any
- engineering 183,334
- physics 72,829
- applied scie... 52,531
- chemistry 18,217
- mathematics 18,199
- More...

**CONTENT TYPE**

- Any
- Journal Article 282,906
- Conference... 28,846
- Book Chapter 22,658
- Magazine A... 11,654
- Book / eBook 6,978
- More...

**Database Recommendations**

- [MathSciNet](#) - Database of reviews, abstracts and bibliographic information for much of the mathematical sciences literature
- [Web of Science](#) - Covers over 10,000 of the highest impact journals worldwide, including Open Access journals and over 110,000 conference proceedings

**1. Fluid dynamics: Pt.B**  
by [Emrich, R.J.](#)  
Methods in experimental physics, 1981  
[Permalink](#)  
Book: [SHELVES\\_QC21 MET/18 \(ORDINARY\). MAINLIB](#)

**2. Fluid dynamics: Pt.A**  
by [Emrich, R.J.](#)  
Methods in experimental physics, 1981  
[Permalink](#)  
Book: [SHELVES\\_QC21 MET/18 \(ORDINARY\). MAINLIB](#)

**3. Fluid dynamics: an introductory account of certain theoretical aspects involving low velocities and small amplitudes**

**Fluid dynamics**  
From Wikipedia, the free encyclopedia

In physics, fluid dynamics is a sub-discipline of fluid mechanics that deals with fluid flow—the natural science of fluids (liquids and gases) in motion. It has several subdisciplines itself, including aerodynamics (the study of air and other gases in motion) and hydrodynamics (the study of liquids in motion). Fluid dynamics has a wide range of applications, including calculating forces and moments on aircraft, determining the mass flow rate of petroleum through pipelines, predicting weather patterns, understanding nebulae in interstellar space and reportedly modeling fission weapon detonation. Some of its principles are even used in traffic engineering, where traffic is treated as a continuous fluid.

[Read more](#)

**Related Topics**

- [Aerodynamics](#)
- [Physics of Fluids](#)
- [Turbulence](#)



# Library Discovery - Refining Your Results

### REFINE YOUR SEARCH

☒ Any

- Full Text Online
- Scholarly & Peer-Review
- Library Catalog

#### DISCIPLINE

☒ Any

- engineering183,334
- physics72,829
- applied scie...52,531
- chemistry18,217
- mathematics18,199
- More...


#### CONTENT TYPE

☒ Any

- Journal Article282,906
- Conference...28,846
- Book Chapter22,658
- Magazine A...11,654
- Book / eBook6,978
- More...

#### SUBJECT TERMS

#### PUBLICATION DATE



from

to

library-sande@qmul.ac.uk





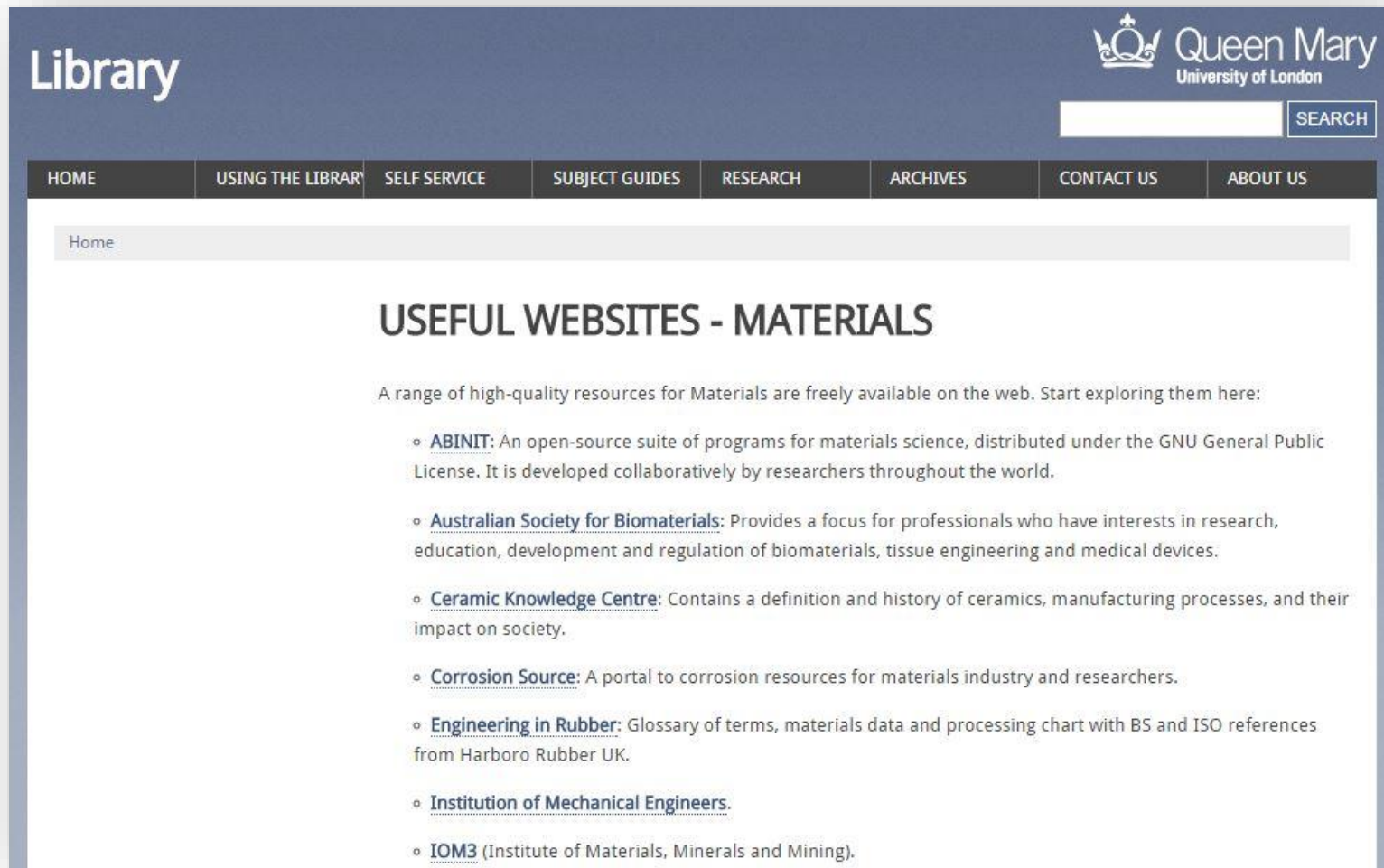
# What is Knovel?



Knovel is a web-based application integrating technical information with analytical and search tools to drive innovation and deliver answers engineers can trust.

- It is also used within the industry.

# Resources for Your Subject



The screenshot shows the Queen Mary University of London Library website. The header includes the 'Library' logo on the left and the Queen Mary University of London crest and name on the right. A search bar is located next to the university name. Below the header is a navigation menu with links: HOME, USING THE LIBRARY, SELF SERVICE, SUBJECT GUIDES, RESEARCH, ARCHIVES, CONTACT US, and ABOUT US. The main content area is titled 'USEFUL WEBSITES - MATERIALS' and features a list of resources for materials science.

**Library**

Queen Mary  
University of London

SEARCH

HOME USING THE LIBRARY SELF SERVICE SUBJECT GUIDES RESEARCH ARCHIVES CONTACT US ABOUT US

Home

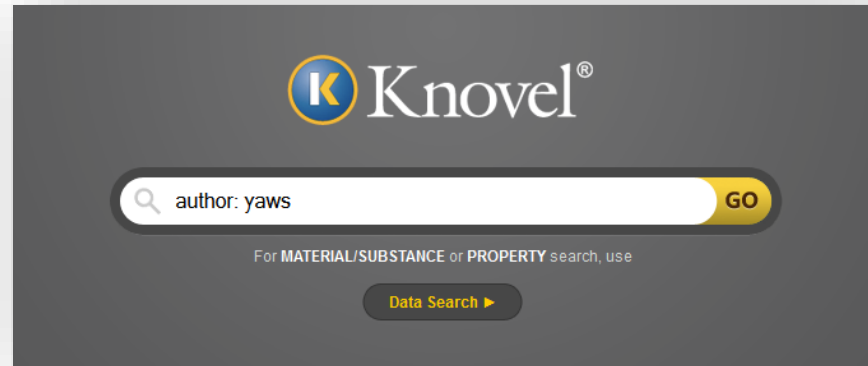
## USEFUL WEBSITES - MATERIALS

A range of high-quality resources for Materials are freely available on the web. Start exploring them here:

- [ABINIT](#): An open-source suite of programs for materials science, distributed under the GNU General Public License. It is developed collaboratively by researchers throughout the world.
- [Australian Society for Biomaterials](#): Provides a focus for professionals who have interests in research, education, development and regulation of biomaterials, tissue engineering and medical devices.
- [Ceramic Knowledge Centre](#): Contains a definition and history of ceramics, manufacturing processes, and their impact on society.
- [Corrosion Source](#): A portal to corrosion resources for materials industry and researchers.
- [Engineering in Rubber](#): Glossary of terms, materials data and processing chart with BS and ISO references from Harbors Rubber UK.
- [Institution of Mechanical Engineers](#).
- [IOM3](#) (Institute of Materials, Minerals and Mining).

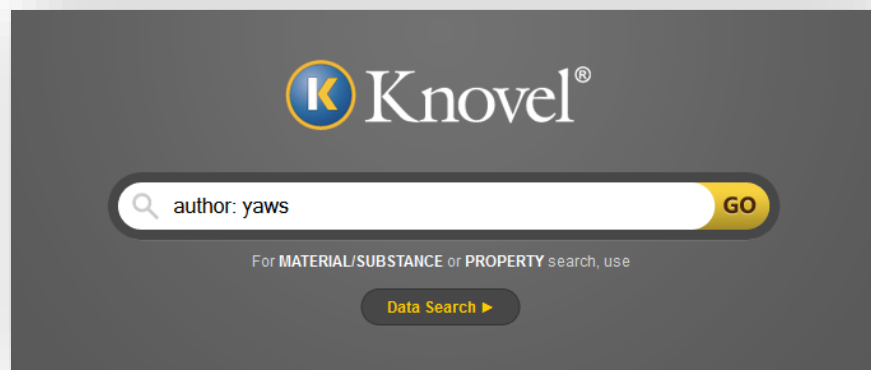


# The Knovel Library



- Knovel is a database of the full text of many leading engineering reference handbooks and conference proceedings
- Knovel also provides tabular and graphical data, including facts, figures, formulas and definitions

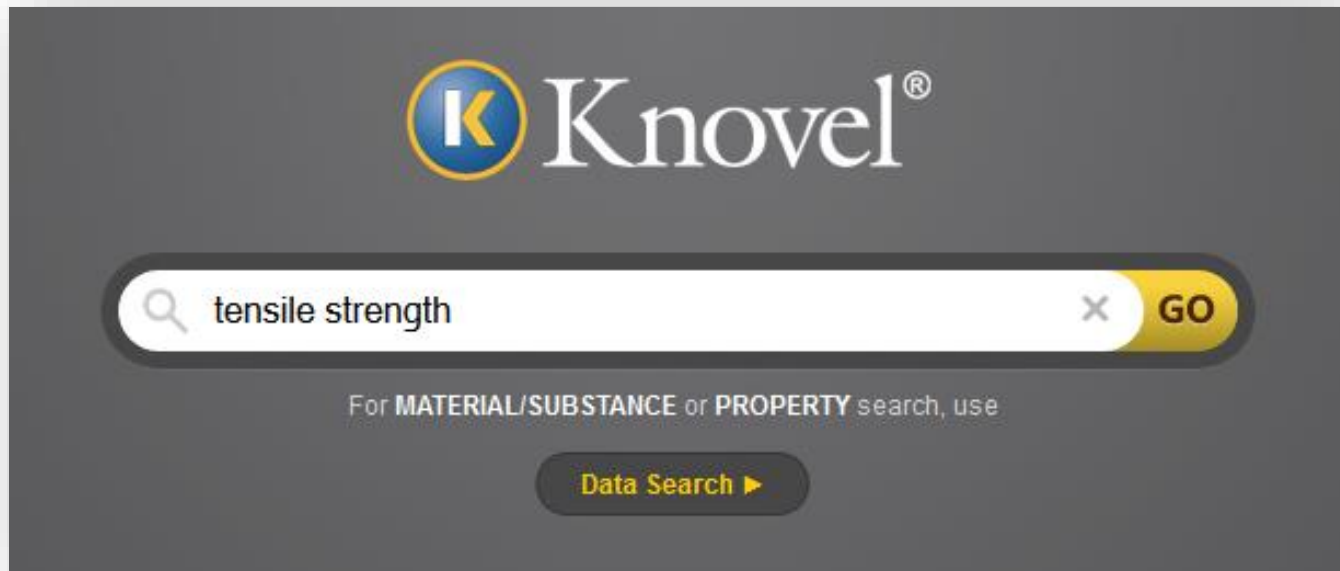
# The Knovel Library



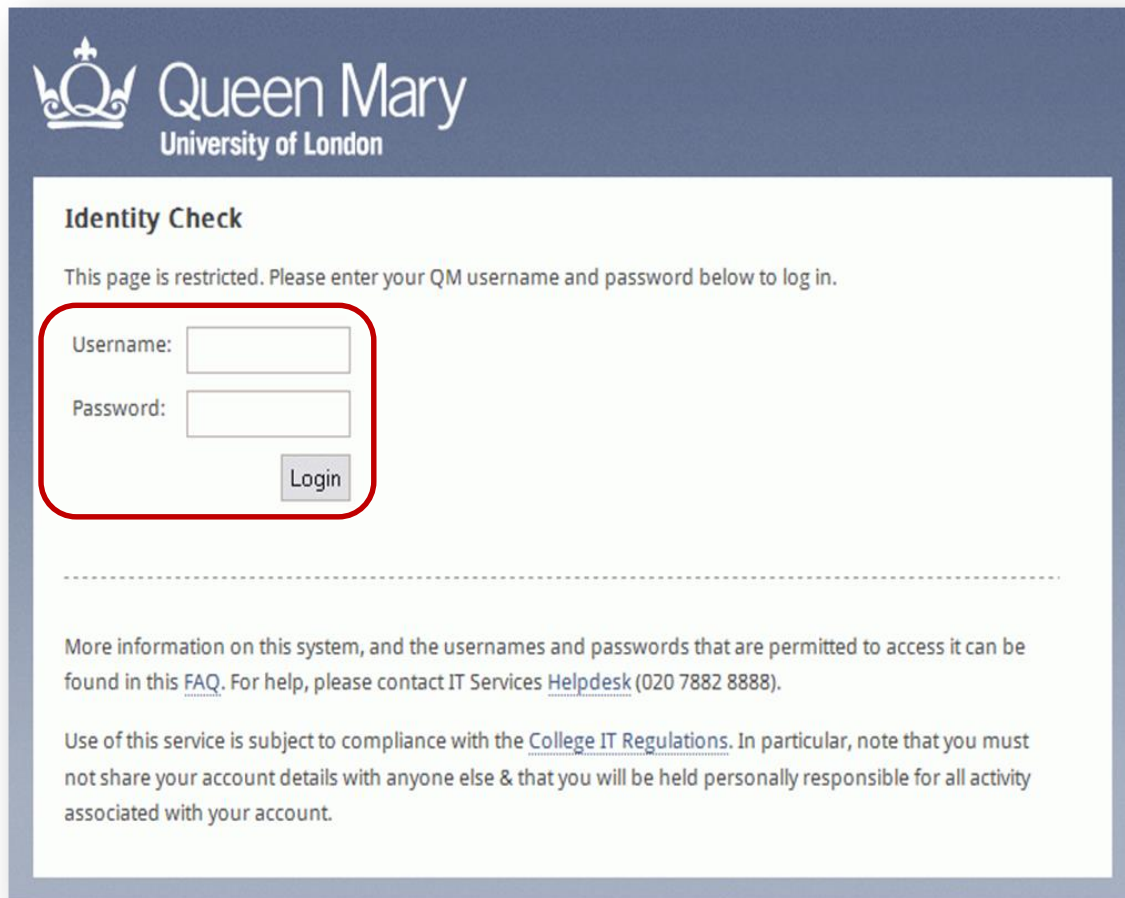
- Knovel is available to all Queen Mary students and can be used in your work as you conduct technical research, select materials, test and create designs, improve processes and more
- Access via Library Discovery tool/Subjects Guides


# Searching Knovel

- Enter your keywords in the search box, e.g.:



# Access and Login



 **Queen Mary**  
University of London

### Identity Check

This page is restricted. Please enter your QM username and password below to log in.

Username:

Password:

Login

---

More information on this system, and the usernames and passwords that are permitted to access it can be found in this [FAQ](#). For help, please contact IT Services [Helpdesk](#) (020 7882 8888).

Use of this service is subject to compliance with the [College IT Regulations](#). In particular, note that you must not share your account details with anyone else & that you will be held personally responsible for all activity associated with your account.

- Access e-resources via Library homepage/ Library Discovery tool
- Off-campus you must log into e-resources using your Queen Mary username and password
- Some e-resources accessed instead via **Institutional Login/Shibboleth/UK Federation**







Referencing





Perfect references?



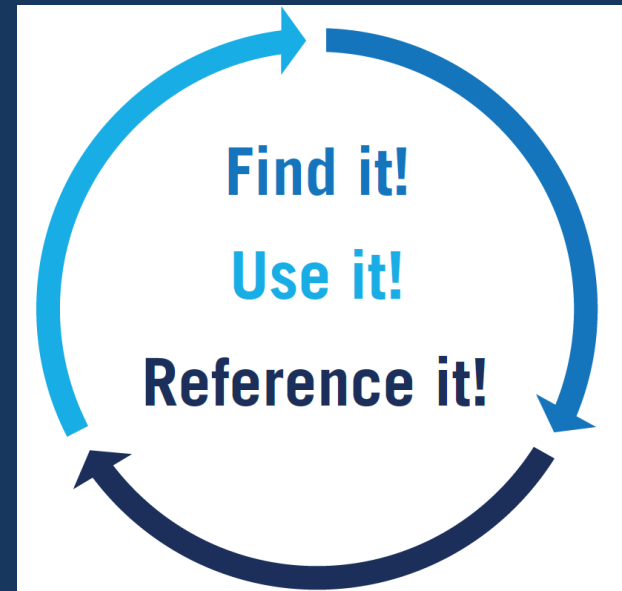
# Referencing your sources

Information and examples for citing your information sources is available (if off-campus you will need to login through our proxy server):

<http://citethemrightonline.com/>

**CITE THEM RIGHT** ONLINE

More examples for citing your information sources is available on QMplus:





# Recording your sources



- Be selective
- Be systematic
- Be electronic
- Be obsessive





# Further Help

- **Welcome Desk** on the Ground Floor - entry/exit issues and circulation problems
- **Help Zone** on Ground Floor - general enquiries
- **Roving Staff** on all floors - general enquiries
- **Online:** <http://www.library.qmul.ac.uk/contact-us/>
- **Subject-related enquiries**



## LIBRARY LANDING PAGE



You are logged in as  
**Guest user**

## SUPPORTING RESEARCH

Whether you are a taught student, research student or member of staff, the Library can help you with your research. Investigate our services and resources on the [Library Website](#) and complete our accredited courses on QMplus as part of the Researcher Development Framework:

- [RDF Principles of Open Access and Open Access Publishing](#)
- [RDF Information Literacy Skills for Researchers](#)
- [RDF Research Data Management](#)

## USING YOUR LIBRARY

**The essentials for all our staff and students.**

Manage your library account and find out about our services:

- [Using the Library](#)
- [Self-service](#)
- [Add Copy and Print Credit](#)

## Finding Information

Find the books, journal articles and other learning resources you need for your coursework and research:

Search Library Discovery:

## INFORMATION LITERACY SKILLS



**Find it! Use it! Reference it!** - helping you develop your information literacy.

**Always think Critically! Learn:**

- How to find the information you need
- How to evaluate it and use it effectively in your work
- How to [reference](#) the information you've found

Get started with our QMplus module

[FIND IT! USE IT! REFERENCE IT](#) >

and investigate our range of

[SUBJECT GUIDES](#) >

## NEW QMPLUS - TIPS

- [Top ten videos to get you started](#)
- [Ten little things that are new in QMplus](#)
- [Whats new with assignments?](#)
- [Highlights of the new theme - Video](#)
- [Editing your new landing page](#)
- [Issues log \(Check here before raising a ticket\)](#)

# The Library on QMplus

## STUDENT LIFE

- > [Student email](#)
- > [My QMUL](#)
- > [Queen Mary Students' Union](#)
- > [Student Enquiry Centre](#)
- > [Careers](#)
- > [Course reps](#)

## HELP &amp; SUPPORT

- > [Raise a support ticket](#)
- > [QMplus for students](#)
- > [Browse our help guides](#)
- > [E-learning Unit website](#)
- > [Book a learning technologist](#)
- > [Book a recording booth](#)

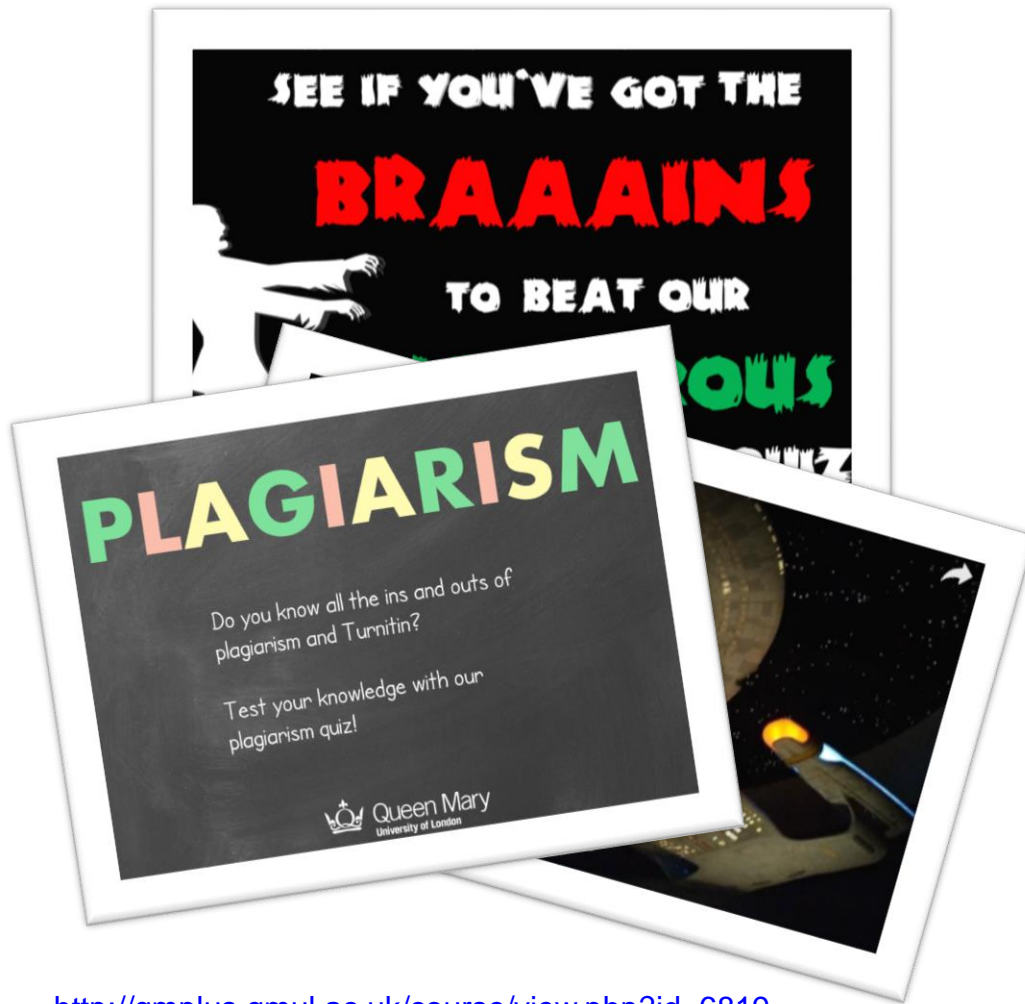
## LIBRARY

- > [Library Landing Page](#)
- > [Library Website](#)
- > [Find it! Use it! Reference it!](#)
- > [Search Library Discovery](#)
- > [Subject guides](#)
- > [Cite Them Right](#)

## QMPLUS ARCHIVE

- > [Archive](#)
- > [2016-17](#)
- > [2015-16](#)
- > [2014-15](#)
- > [2013-14 \(on campus\)](#)
- > [2012-13 \(on campus\)](#)

# Find It! Use It! Reference It!



- Find academic information
- Evaluate information
- Reference your dissertation
- Avoid plagiarism
- Produce the perfect bibliography

<http://qmplus.qmul.ac.uk/course/view.php?id=6819>





# Mile End Library Tours

Every ½ hour from at 9.30am to 6.30pm (ends at 7pm)

Ask at the Welcome Desk for more details

[library-sande@qmul.ac.uk](mailto:library-sande@qmul.ac.uk)







**How to get to your slides?**



**How to contact your S&E team?**

Email: [library-sande@qmul.ac.uk](mailto:library-sande@qmul.ac.uk)

**For news and recent developments:**

Twitter: [@QMLibrarySciEng](https://twitter.com/QMLibrarySciEng)

