University Library: Skills for Researchers

Literature Searching in Mathematics

Search Tools

These are the main search tools for finding maths journal articles, books and theses. It is recommended that you focus on using *LibrarySearch, IEEE Xplore Digital Library, Web of Science, Scopus* and *ScienceDirect* in the first instance. This will help ensure that your searches are comprehensive, covering all the literature available to you. By creating complex searches with the most appropriate search terms you will get the most relevant articles.

Here are some of the relative merits of the main search tools, accessible via
http://www.wlv.ac.uk/lib/subjects/mathematics/

Search Tool	Scope	Search	Features*
LibrarySearch www.wlv.ac.uk/lib/search	Searches all the University's paid-for databases, ejournals, books and ebooks. Cross-subject searching. Links out to full text of articles online and ebooks.	Keyword search box, with ability to limit by format e.g. journal article or date. Use inverted commas for "phrase searching"	RefWorks Account
IEEE Xplore Digital Library	Full text access to the world's highest quality technical article and conference papers in engineering and technology.	Advanced search allows complex combinations of subject terms and limits.	RefWorks Personal account Search alerts
Web of Science	Includes Science Citation Index Expanded & Journal Citation Reports. Provides access to books, journals, proceedings, patents, including integrated, multidisciplinary research.	Advanced search allows complex combinations of subject terms and limits – e.g. geographical region or peer reviewed	RefWorks Personal account Search alerts
Scopus	The largest abstract and citation database of peer-reviewed research literature.	Document search, Author search, Affiliation search and Advanced search.	RefWorks
ScienceDirect	The leading full-text scientific database of journal articles. Coverage includes mathematics.	Advanced search allows complex combinations of subject terms and limits	Personal account, RefWorks, Search alerts

*Features : RefWorks – references can be downloaded into our reference management software (see below) **Account** – e.g. "My Account" or "My Folder" enable you to save your searches and documents, and set up alerts. **Search alerts** - automatic emails sent from a database, notifying you of new documents that meet your search parameters.

Note: Where the full text of an article is not immediately available, you may see . Click on this symbol to check whether the University has access to the full-text.

What About Google Scholar?

Google Scholar is a quick way to find journal articles, but you should not rely on this alone. **Access Google Scholar via the link below** to ensure you are logged in to access the full-text of any of the University's full-text journals you locate in your searches.

Search Tool	Scope	Search	Features
Google Scholar http://ezproxy.wlv.ac.uk/login?url=http://scholar.google.com	Will return results from open access repositories. Covers pre-prints of articles, un-reviewed articles and peer-reviewed articles.	Use inverted commas for "phrase searching"	Refworks Account

Finding Open Access Resources

Many research papers and documents are now open access, i.e. freely available. Open access resources will be picked up by searches in standard search tools, e.g. LibrarySearch or Google Scholar. You may also find these sources useful:

CORE	https://core.ac.uk/	Provides access to papers from institutional, subject and preprint repositories as well as gold and hybrid open access journals.
arXiv	https://arxiv.org/	From Cornell University, this open access archive has around 2 million scholarly articles in the fields of physics, mathematics, computer science.

Platforms for sharing research, such as *ResearchGate* www.researchgate.net may also give you access to the full-text of documents that you require. Articles may be linked to researcher profiles. You will need to register on these sites to use them.

LibKey Nomad

LibKey Nomad is an extension you can add in Google Chrome which will flag when articles are available to you in full-text. Once it is installed, whenever you come across a journal article online, Nomad will inform you if the article is available through the Library's subscriptions, or if there is an open access copy available. See www.wlv.ac.uk/lib/resources/libkey-nomad for details.

Finding Theses

Consider searching for doctoral theses on your topic, as a source of information or to look at the layout of a thesis. Most importantly, you need to establish what work has already been completed in your topic area.

British Library EThOS	http://ethos.bl.uk	Listing of UK higher education theses, many in full text. Can request a digital copy if not online. Login to save a thesis or request a thesis.
WIRE - Wolverhampton Intellectual Repository and E-Theses	http://wlv.openrepository.com/wlv	Access the full-text of doctoral theses from the University of Wolverhampton. Our theses can also be located through LibrarySearch.
Global ETD Search (NDLTD)	http://search.ndltd.org	Search for theses world-wide with the Networked Digital Library of Theses and Dissertations. Links to full-text where available.

Constructing Searches

You will need to experiment with your searches to find the most appropriate subject terms or keywords for your topic.

When searching, you need to consider combining your terms with either **and, or** or **not,** to include or exclude concepts. Many databases offer other features e.g.

- Alternative terms (synonyms)
- Alternative spellings (e.g. behaviour/behavior)
- Broader terms (if you find insufficient information on your precise topic)
- Geographical limits (does your search need to be UK specific)
- Date limits?
- Format limits – e.g. peer reviewed articles only to exclude magazines
- Language limit – e.g. English only
- Truncation searching to include variants e.g. motiv* for motivation, motivating

- Wildcard searching e.g. type ne?t to find all citations containing neat, nest or next or type colo#r to find all citations containing color or colour.
- Proximity searching – consider using the Near Operator (N) (using N5 finds the words if they are within five words of one another regardless of the order in which they appear e.g. technology N5 education) or the Within Operator (W) (using W5 finds the words if they are within five words of one another and in the order in which you entered them e.g. technology W5 education).

Setting Search Alerts/Keeping Up to Date

If you are undertaking research over a period of months it may be worth setting up search alerts, so you are informed when new journal articles are published in your area of interest. Alerts can be received by email or RSS feeds. This can be done through the databases listed above, or through Zetoc http://zetoc.mimas.ac.uk/ or JournalTOCs www.journaltocs.hw.ac.uk/ .

Reference Management

It is possible to save references from the above databases into reference management software such as RefWorks. RefWorks can also be used to format your bibliography in the Harvard Referencing style. See Reference Management at www.wlv.ac.uk/lib/referencing for information on how to sign-up to RefWorks.

Found a Reference but Can't Access it?

If you have identified a useful journal article or book, but don't think we have it online or in print in the Library, you can request a copy via our Inter-Library Loan service - see www.wlv.ac.uk/lib/info/inter-library-loans for advice.

Help and Advice

If you would like further help, please use our Library ASSIST chat https://wlv.libanswers.com or email the Liaison Librarian team at LISliaison@wlv.ac.uk

To request this document in an alternative format please contact LISliaison@wlv.ac.uk