Information Services

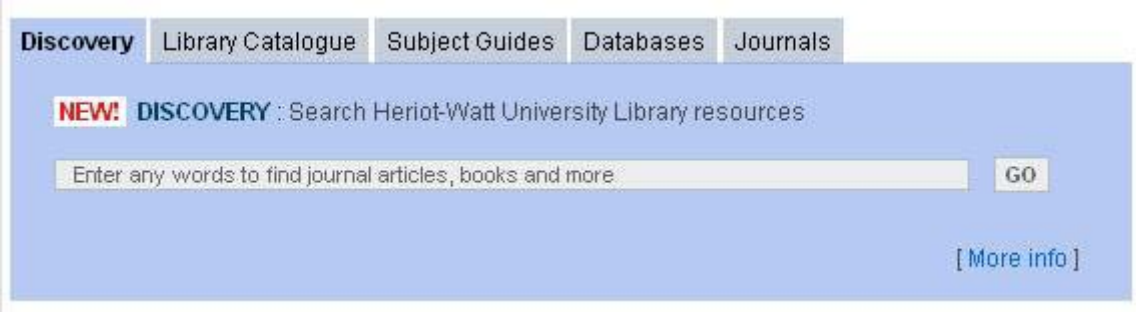
AN INTRODUCTION TO FINDING INFORMATION

WHEN YOU DON'T KNOW WHAT YOU'RE LOOKING FOR

DISCOVERY

Generally speaking, the best resource for you to start with is DISCOVERY. This allows you to cross-search lots of different publishers (and also the Library Catalogue) and allows you to find books, journal articles, news articles, conference papers etc, that match the keywords you enter into the search box.

You access DISCOVERY via the Library website (http://www.hw.ac.uk/is) by entering search terms/keywords in the search box:



When off-campus, you will be prompted for your Heriot-Watt username/password when you click 'Go'. Further information about off-campus access is at http://isguides.hw.ac.uk/access.

If you are looking for something in particular (e.g. a specific article), then the put your words in "quote marks" if you are looking for general results on a topic, then just enter your selected words. **Think carefully about your keywords**.

A note on Keywords

Keywords are important! The words you use will determine how successful your search results are. Think about what you know already and what you need to find out about. Even though you have your project title, this is only a starting point. How well do you know this topic? If this is an entirely new topic to you, the first stage will be general background reading (textbooks, handbooks, encyclopaedias, web-pages, not journal articles). Having a better understanding of the topic, will give you a better idea of the sorts of questions you might want your dissertation/essay to answer and the sub-topic/chapters that you will research.

Think about both broad and narrow concepts, e.g.

A chapter on 'Cramer-Lundberg model' might be found in a more general book on mathematical modelling/finance/insurance.

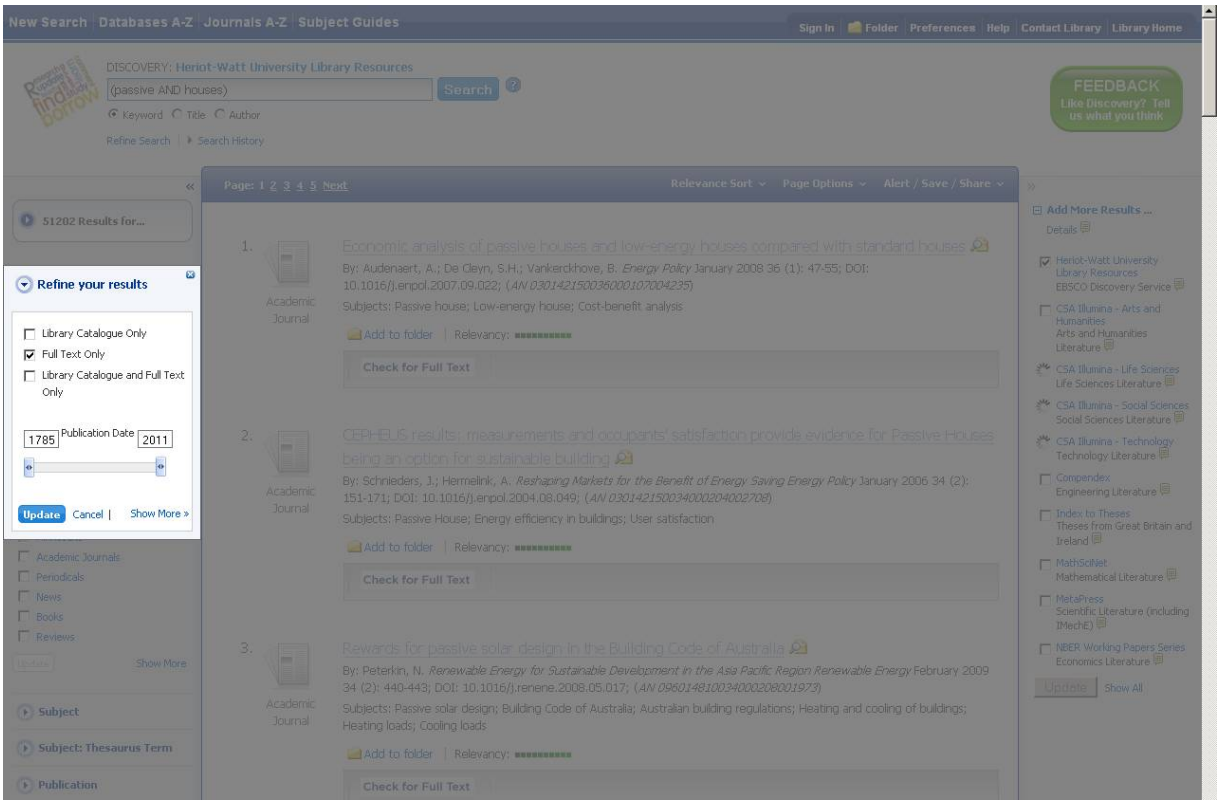
If the results you get are too broad, then you need to think about the specific information you want/questions you want to answer and use the keywords identified to pinpoint more relevant material.

With Journal articles, you can usually use quite narrow concepts, but remember these concepts may have alterative spellings, synonymous and related terms, variations of the same root word etc, so think about that, e.g.:

math* = maths, mathematics, math etc
'google math*' synonymous with 'PageRank algorithm'?

The likelihood is that each sub-topic/chapter/area will have different keywords that you will use to find the information you want i.e. you will never find all the information you want with one search, rather **it is likely that you will do several different searches specific for each chapter/area of interest.**

Back to DISCOVERY…On the search results screen, you can use the links on the left-hand side to limit your results to 'full-text only' (which will limit your results to only those that can be accessed online and to which we have access) or 'Library Catalogue and Full Text Only' (which will also include items you can get in the Library in print):



When not to limit?

This is a useful feature, particularly when you want material quickly - see also the 'check for full-text' handout. However, if you have time, there are ways of getting material that you cannot access:

EDINBURGH CAMPUS STUDENTS

Getting items delivered from other libraries (Inter-Library Loan)
Heriot-Watt University is part of the national ILL network which allows us to obtain items from other libraries. Generally, books are delivered to the Library for collection and journal articles are sent electronically (note, this can only be viewed once, so you have to print it). See http://www.hw.ac.uk/library/ill.html for further information. You cannot get ILL for any item we have I print (generally speaking, online subscriptions start in 1995 and anything older you may have to get in print).

Visiting other libraries in Edinburgh
There are a variety of other Universities in Edinburgh, and you may find they have material which you wish to consult or borrow. Registering for a Sconul card at the Service Desk will make this much easier for you. See http://www.hw.ac.uk/library/otherlibs.html for further information.

Note: Edinburgh Mathematical Society (EMS) Collection is part of The University of Edinburgh Library Collections and are held (in the most part) at The Robertson Library at King's Buildings. The Library is open

to public access during regular opening hours and you may photocopy material from there (http://www.ed.ac.uk/schools-departments/information-services/services/library-museum-gallery/using-library/lib-locate/robert-lib).

In addition, by studying in Edinburgh, you live in the same city as the National Library of Scotland. This is open to those requiring consultation access (no borrowing) to material not readily available elsewhere, subject to certain conditions. See http://www.hw.ac.uk/library/edinburgh.libraries.html#nls for further information.

Whether visiting other libraries for reference, or to borrow, check the host library catalogue first.

BOOK RECOMMENDATIONS

If you would like us to buy a book for addition to library collections, you can submit a request for book purchase via the online form at http://www.hw.ac.uk/library/request-form.html. The request will be forwarded to the Library Rep for the School, who will decide whether or not to pass to the Library for ordering.

OTHER RESOURCES

DISCOVERY is a database (a resource which allows you to enter keywords to find information). We do have other specialist databases – an A-Z list is available at http://isguides.hw.ac.uk/databases. Many of these are cross-searched via DISCOVERY (including WoK, AMS, JSTOR, SIAM, arXiv, Elsevier, Springer, CUP, Wiley….). Some databases are not, the main resources for Mathematics, not searched by DISCOVERY, are:

- **MathSciNet**

In addition:

- **SpringerLink**
  - Is cross-searched by DISCOVERY, as all Springer titles are in the Catalogue. However, searching SpringerLink directly allows you to search at chapter level
  - Use for keyword searches to find a variety of material
  - No DRM, so can save entire book

- **Web of Knowledge**
  - Again, this is cross-searched by DISCOVERY, but certain functionality is only available directly from WoK e.g. cited reference searching

WHAT ABOUT GOOGLE SCHOLAR?

The point of this handout is to alert you to resources you might not know about and for you to try them out. If you need to do a comprehensive literature search, you should never ONLY use Google Scholar, it should be used in ADDITION to Library resources. However, at the end of the day you should use resources that get you results and are appropriate for the depth of literature search you require. If you do find GoogleScholar useful, remember to use the link from the Databases page (if off-campus) to make sure you get links to our subscriptions - see also the 'check for full-text' handout.

WHEN YOU KNOW WHAT YOU'RE LOOKING FOR

A book in a reference list, will look similar to this:

Katz, V.J. (2009) A history of mathematics: an introduction, 3rd ed. Addison-Wesley

Where:

- Author/s = Katz, V.J.
- Year of publication = 2009
- Book title = A history of mathematics: an introduction
- Edition = 3rd
- Publisher = Addison-Wesley
- Place of publication = missing (therefore this is not a complete reference)

A chapter of a book in a reference list, will look similar to this:

Katz, V.J. (2004) Ideas of Calculus in Islam and India. In: Anderson, M.A., Katz, V.J. And Wilson, R. (eds). Sherlock Holmes in Babylon: and other tales of Mathematical History . Washington D.C: Mathematical Association of America, pp. 122-130

Where:

- Chapter author/s = Katz, V.J.
- Year of publication = 2004
- Chapter title = Ideas of Calculus in Islam and India
- Book editor/s = Anderson, M.A., Katz, V.J. And Wilson, R.
- Book title = Sherlock Holmes in Babylon: and other tales of Mathematical History
- Place of publication = Washington D.C
- Publisher = Mathematical Association of America
- Pages = 122-130

A journal article in a reference list, will look similar to this:

Donoghue E.F. (1998) In Search of Mathematical Treasures: David Eugene Smith and George Arthur Plimpton. Historia Mathematica 25(4): 359-365

Where:

- Author/s = Donoghue E.F
- Year of publication = 1998
- Article title = In Search of Mathematical Treasures: David Eugene Smith and George Arthur Plimpton
- Journal title = Historia Mathematica
- Volume number = 25
- Issue number = 4
- Page numbers = 359-365

BOOKS

If you are looking for a book, you can use DISCOVERY or the Library Catalogue (http://hw.lib.ed.ac.uk/) e.g.:

- Katz, V.J. (2009) **A history of mathematics : an introduction**, 3rd ed. Boston: Addison-Wesley.
- Katz, V.J. (2004) Ideas of Calculus in Islam and India. In: Anderson, M.A., Katz, V.J. And Wilson, R. (eds). **Sherlock Holmes in Babylon: and other tales of Mathematical History** . Washington D.C: Mathematical Association of America, pp. 122-130.

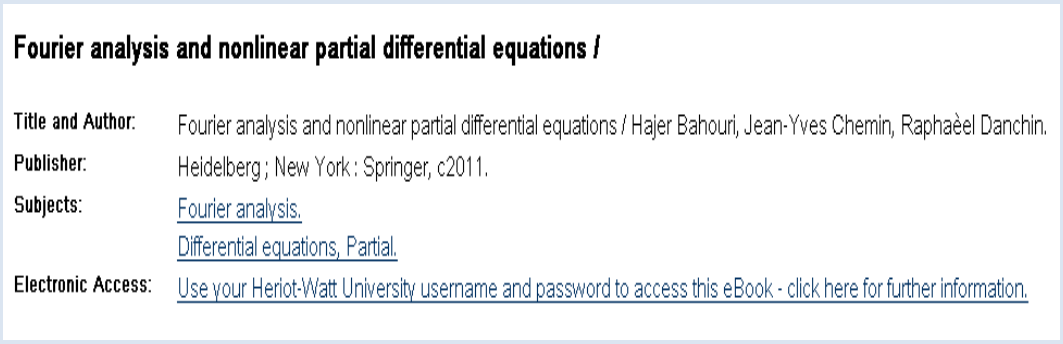
Using the catalogue, for the first example, search for [katz history mathematics] and for the second example, search for [anderson sherlock] – i.e. the book title, not the chapter title.

A note on EBooks

We have a growing collection of eBooks and the Catalogue and DISCOVERY will both tell you if a book is available electronically. If an electronic version is not listed, then it means we do not have access to that book electronically.

If the book you want is available electronically, you will be given a link saying 'eBook available from XXXX to University staff and students. Enter your Heriot-Watt University username and password'. When you click

on this link, you will be prompted for your Heriot-Watt username/password. An example of an eBook is at http://hw.lib.ed.ac.uk/vwebv/holdingsInfo?bibId=271704 or see screen shot below:



Fourier analysis and nonlinear partial differential equations /

Title and Author:	Fourier analysis and nonlinear partial differential equations / Hajer Bahouri, Jean-Yves Chemin, Raphaèel Danchin.
Publisher:	Heidelberg ; New York : Springer, c2011.
Subjects:	Fourier analysis. Differential equations, Partial.
Electronic Access:	Use your Heriot-Watt University username and password to access this eBook - click here for further information.

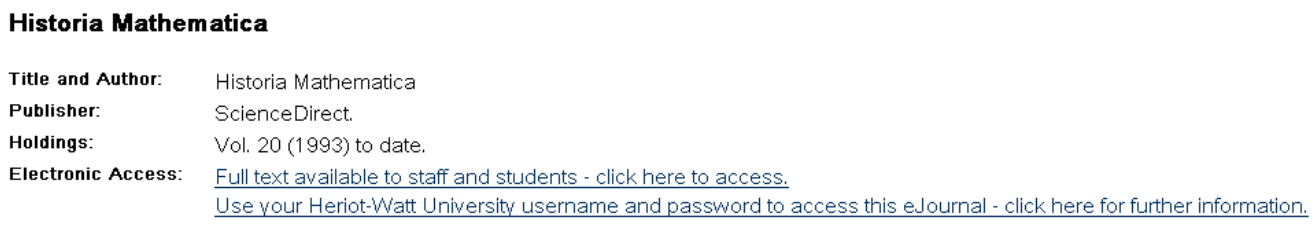
There are over 22,000 eBooks via the provider SpringerLink, including **Lecture Notes in Mathematics** http://www.springerlink.com/content/110312/.

JOURNAL ARTICLES

If you are looking for something specific, e.g. an article on a reading list:

> Donoghue E.F. (1998) *In Search of Mathematical Treasures: David Eugene Smith and George Arthur Plimpton*. **Historia Mathematica** 25(4): 359-365

Then you can either use DISCOVERY to search for the "article title" (put it in quote marks i.e. "*In Search of Mathematical Treasures*") or, you can use the Library Catalogue and search for the journal title (Historia Mathematica):



Historia Mathematica

Title and Author:	Historia Mathematica
Publisher:	ScienceDirect.
Holdings:	Vol. 20 (1993) to date.
Electronic Access:	Full text available to staff and students - click here to access. Use your Heriot-Watt University username and password to access this eJournal - click here for further information.

Click on the link saying 'Full text available…click here' (and if prompted, enter your Heriot-Watt username/password) - then navigate to the year (1998), volume (25), issue (4) and page numbers you need.

A note on the Library Catalogue
You cannot use the Library Catalogue to search for journal articles, only for journal titles (i.e. to see if we have the journal for the year/volume and issue you need)

WHEN YOU'VE READ SOMETHING GOOD

Let's assume you have done a search and have found (or have been given on a reading list) a really useful article. How can you use this article to find other good articles? There are various different ways:

- **Reference List (looking back)**
  - This author found these papers useful, might it be worth checking these out? Check if we have these papers or can get them for you (i.e. you know what you are looking for). These will necessarily be older papers.
- **Cited reference searching** (looking forward)

    - We subscribe to a resource called Web of Knowledge. WoK is cross-searched by DISCOVERY, but you can access it directly to search for an article and then see who has cited that paper (times cited). This is necessarily looking forward i.e. how has this area of research developed/who has subsequently cited this paper in their research? WoK can be accessed via 'W' at http://isguides.hw.ac.uk/databases
- **Related articles**
    - Usually given in a publisher database – other articles in that database which share some of the same references as this article
- **Keywords/controlled vocabulary**
    - If you are struggling to think of appropriate keywords to for your search, look at those used in a useful paper
- **Author Details** (often links in a database)
    - Is this author an expert in the field, might they have other useful papers? Use the author name to search for other papers or check their personal website
- **Journal Details**
    - Is this quite a specialised journal, might it publish papers on the same topic? Search within that journal with your selected keywords and set up alerts to be notified of new articles

For books, remember, books on the same topic are shelved at the same class number, so if you have found a good book, it may also be worth browsing the shelves at the same class number.

A note on shelfmarks

Books on the shelves are ordered as follows:
First numerically
000 comes before 600
004 comes before 005
004.6 comes before 004.68
Then alphabetically, by the first three letters of the author's name
004.6 Bac comes before
004.6 Yua
511.8 Har comes before
511.8 Tra

KEEPING UP TO DATE

It is possible to save searches and set up an email alert so that you are automatically notified when new articles are published that match your search. If you are interested in this, check the resource Help or get back in touch for further information.

NEWSPAPER ARTICLES

Including the Financial Times - search 'Factiva' (http://isguides.hw.ac.uk/content.php?pid=357118&sid=2921938) and instructions at http://www.hw.ac.uk/library/Searching%20the%20Financial%20Times.pdf.

Remember – compare the language/writing style of a newspaper/press release, with how you would write the information for a scientific/academic paper. It is often better using newspaper sources for keeping up-to-date, and then finding the original source of information (e.g. the journal they got the story from), rather than citing a newspaper.

THESES AND DISSERTATIONS

Maths MSc dissertations are not listed in the Library Catalogue/available in the Library. To see an example, ask in the School Office.

All Heriot-Watt PhDs are listed in the Library Catalogue (http://hw.lib.ed.ac.uk/), with links to any that are available online. Alternatively you can search for/browse and access available Heriot-Watt PhD theses directly at http://www.ros.hw.ac.uk/.

For PhD theses from other UK Universities, you should register and search in Ethos (http://ethos.bl.uk/). Many PhD theses are available for immediate download at no cost. For others there will be a cost attached. If the thesis you want is not available for free, please get in touch with the Library to get advice about the best way to get hold of the full-text. Note, Ethos is cross-searched by DISCOVERY, but you will have to register with Ethos to access content, so it is probably easier to search Ethos directly (i.e. you will only be searching/finding PhD thesis).

CITING AND REFERENCING

Citing and referencing is important. Be sure to take a note of all the sources you use and the information you take from it. Differentiate direct quotes from your own words. Take note of as many details as possible (as it can be difficult to check back later).

A full reference comes in two parts – the citation within your report/essay (in text citation) and the full bibliographic details in your 'reference list' at the end of your work.

Your own experiments do not require a citation and neither do commonly known facts. Other peoples ideas, direct quotes, figures, diagrams, tables…. anything in your work, which has required you to do any research in order to obtain that information, requires you to cite and reference.

The main reasons for citing and referencing are:

- to ensure that you don't plagiarise (i.e. try to pass of someone else's ideas as your own)
- to give evidence of background reading /independent research beyond the reading list that is at the appropriate level (depth and breadth of reading)
- to allow the reader/marker to follow up/verify any statements made by giving the fill details in the reference list to find that reference (useful to you as a reader of other peoples work too).

The two main styles of citing and referencing are numbered and author-date. Within these styles there are thousands of variations, and each journal publication has its own style. The style determines the order and formatting of the in-text citations and reference list (e.g. bold, underlining etc).

In Mathematics, it is generally accepted that you use a numbered style, where the in-text references are in square brackets e.g. [1], [2-5] etc. and the Reference List is alphabetical by author-surname (the in-text number corresponds to the number of the reference in the reference list). If you are using EndNote Web, some suggested styles are:

- Advances in Applied Mathematics
- Proceedings of the London Mathematical Society
- SIAM

You may find the information at http://isguides.hw.ac.uk/citing helpful.

PROFESSIONAL BODIES/SOCIETIES

It is worth looking into the professional body 1) for professional reasons e.g. networking, meetings, events etc but also because 2) they often have library resources/services available to you e.g. journals we may not subscribe to, ebook collections, as well as briefings papers etc, that will keep you up to speed with developments in your area.

For MACS these are:

- **Computer Science**
  British Computer Society http://www.bcs.org/
  Engineering Council http://www.engc.org.uk/
  See also:
  Institution of Engineering and Technology (IET) http://www.theiet.org/
  Institute of Electrical and Electronics Engineers (IEEE) (US) http://www.ieee.org/
- **Actuarial Mathematics and Statistics**
  The Actuarial Profession http://www.actuaries.org.uk/
  See also:
  Royal Statistical Society http://www.rss.org.uk/
  The OR Society http://www.theorsociety.com/
- **Mathematics**
  See also:
  Institute of Mathematics and its Applications http://www.ima.org.uk
  Edinburgh Mathematical Society http://www.ems.ac.uk/
  London Mathematical Society http://www.lms.ac.uk/
  European Mathematical Society http://www.euro-math-soc.eu/
  Society for Industrial and Applied Mathematics (US) http://www.siam.org/

If you are unsure of what the Library has access to, please check before paying any additional fees for content.

OTHER 'STUFF'

You may find it useful to look at the slides from, our lunchtime workshops (http://isguides.hw.ac.uk/powerhours).