Lecture Notes of the course

Information Literacy 2
Search Strategies and Databases

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1. Where do I search for literature on my topic?

Probably you are already familiar with various search interfaces that are suitable for literature research. Web search engines can be a great starting point for your research, especially academic search engines such as Google Scholar and Microsoft Academic Search. Almost all web search engines come with the disadvantage that we do not know which sites and sources they actually search. In order to obtain reliable and quotable on-topic information and to make sure that you do not miss important publications, the services of a university library are essential.

1.1 Literature research in the TUM Library’s catalogue?

In the TUM Library Catalogue, you will find primarily books and journals both in printed or electronic versions. Our online catalogue (http://www.ub.tum.de/en/opac) is always your first place to start your search.

As you will frequently need only parts of books or journals, single book chapters or journal articles, other interfaces are often preferable for searching literature on a specific topic: the so-called bibliographic databases.

The TUM University Library offers a multitude of bibliographic databases for subject specific search. So how do you find the right database for your subject?

1.2 Which bibliographic database is right for me?

The Datenbank-Infosystem (Database Information System, DBIS) assists you in choosing the right database among our various licensed bibliographic databases. DBIS provides you with an overview of the databases’ contents and facilitates access to research interfaces.

DBIS can be found on our website www.ub.tum.de/en at “Searching & Finding” => “Databases”

You should choose on-Campus Access if you are on campus. Outside the campus network, please choose the Off-Campus Access: you then need to login with your TUM ID (e-access).
You will be directed to the DBIS interface, from where you can proceed in multiple ways to find a suitable database for your subject:

- **Search:** You can choose between a quick search (Schnelle Suche) and an advanced search (Erweiterte Suche)
- An alphabetical list of all databases (Alphabetische Liste)
- An overview of all databases ordered by subject (Fachübersicht)

**Searching by subject (Fachübersicht)**

After choosing a subject you will find the most important databases of your chosen subject under the heading “TOP-Datenbanken” (“top databases”). Below the heading “Gesamtangebot” (“full inventory”) all databases for your subject will be listed.
By clicking on the name of a database, you receive additional important information about its content. This may help you finding a database that suits your purposes.

- Does the database cover my **subject**? (The information about content and keywords may be helpful.)
- Is the outlined **content** relevant to what I am trying to find?
- Do I search only/not only **journal articles**, for example?
- In many cases, you will find a link to the list of journals, which are evaluated for the database. Does this list include the **journals**, which are important for my subject/my work?
- Does the database evaluate current literature or has its so-called **Berichtszeitraum** (reporting period) already been terminated?

In the course of compiling a database, database providers evaluate the contents of academic publications such as journal articles, congress contributions, books, research reports, clinical studies, financial and statistical data, business reports etc., as well as collecting and sorting the information and assigning keywords or categories. So by using the database’s interface you can make your search for literature very precise.

Bibliographic databases list books, articles in edited books, journal articles, and other sources of information, regardless of whether they are available from a specific institution (e.g. the TUM University Library) or not. So, exactly how do you find articles in a database, and how do you obtain full texts?

### 1.3 How do I find journal articles on my subject?

#### 1.3.1 What does a database normally look like?

The database Web of Science is a good practice example for using a bibliographic database.

**The essential facts concerning the Web of Science:**

<table>
<thead>
<tr>
<th>Type of database</th>
<th>Article database</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>More than 18 million entries in the section Science Citation Index Expanded (SCI); almost 3.5 million entries in the section Social Sciences Citation Index (SSCI).</td>
</tr>
<tr>
<td>Fields of research</td>
<td>SCI – all areas of natural sciences, medicine and engineering sciences</td>
</tr>
<tr>
<td></td>
<td>SSCI – all areas of social sciences including the natural scientifical-oriented neighboring disciplines of social medicine and psychology.</td>
</tr>
<tr>
<td>Reporting period</td>
<td>SCI 1899-; SSCI 1985-</td>
</tr>
<tr>
<td>Special features</td>
<td>&quot;Cited Reference Search&quot;: using this option you can analyze citations (prospectively and retrospectively)</td>
</tr>
</tbody>
</table>

The Web of Science Core Collection and other databases are combined in the “Web of Science”. The Web of Science Core Collection comprises three separate sources: data about the natural sciences, the social sciences and the arts & humanities. The TUM subscribes to the natural science data (“Science Citation Index Expanded”) and social science data (“Social Sciences Citation Index”), as well as to the data of the Conference Proceedings Citation Index. In DBIS, you can access the Web of Science by searching for one of these names, “Web of Science” or “WoS”.

Searching in the Web of Science

In the lower area of the search form of the Web of Science you can select the databases of the Web of Science Core Collection to be searched:
A link behind some of the search fields in the scroll down menu refers to an **index** that you can choose suitable search items from.

The examples below each search field illustrate how to phrase a query:

- The asterisk (*) is used for **truncating** a word (place holder), it can replace any number of characters.
- Multiple search items within a field may be connected using **AND, OR, NOT**.
- When searching using **authors' names** in the Web of Science you should enter only the initial letters of the first names.

In the lower section of the search form you can limit your search to a specific time span.

![Web of Science search form](image)

**Citation analysis – a special feature of the Web of Science**

In addition to the usual bibliographic data, you can find the following in the Web of Science (and also in Scopus, another database licensed at TUM library which covers several subjects):

- Result Analysis: group your records e.g. by authors, titles of series, or sources.
- Times Cited (= newer documents), number of documents that cite the article
- References (= older documents), number of documents cited in the article
- Related Records (= similar documents)
- Bibliometric or scientometric indicators: h-index of authors, the journal’s impact factor may be obtained via research within the database “Journal Citation reports”

1.3.2 What if I still can’t find what I’m looking for?

When searching for literature it is important to proceed systematically and to consider a few questions even before starting the actual search. A subject specific search can be divided into five steps.

1. Determining extent:
   How extensively do you intend to search? Do you need only a few articles or do you have to review the relevant literature as comprehensively as possible, e.g. for a doctoral thesis? Do you need primarily basic reference works or highly topical research literature?

2. Choosing a research tool:
   Depending on the extent of literature needed, the research tools you should use differ. In order to find basic works or specialised dictionaries, library catalogues are sufficient. If you need extensive collections of articles, however, you will have to search in subject bibliographies and/or article databases.

3. Analysing the subject:
   Theses often have very extensive titles. What are the core aspects of your subject? What criteria must your literature conform to? Which subjects do the articles and books have to cover? Which terms have to occur compulsory? Which single terms are thus suited for your search, which expressions represent individual keywords of your subject?

4. Developing a search strategy grid:
   Based on your subject you have determined the relevant keywords (step 3), which you will now insert in columns of their own.
   The interfaces of some databases are in other languages, thus an initial step is to transfer the keywords into the correct language.
   Possibly your field employs multiple terms to denote a single keyword. Because of this, you should find as many synonyms as possible – specialised dictionaries, thesauri and relevant literature can help you with this.
When entering terms into the search forms of bibliographic databases, proceed as follows:

- Search for every term in your columns separately using the “all fields” field of the database. Disregard the results for the time being.

- Via the search history provided by most databases you can revisit all your searches. Now connect the queries for all terms in the same column using OR, thus ensuring that at least one of these terms is contained in your result.

- After having created OR-connected result sets for all keywords in this manner, connect the keywords using AND, thus ensuring that all keywords of your subject are contained in the results.

5. Evaluating results:
Normally, the method presented above results in a manageable number of results, which you can subsequently examine for relevance. The following problems may, nevertheless, occur:

- **no or not enough results** – possible solutions:
  - control your input for typos/alternative spellings
  - try to find a better/alternative search term (using indices if necessary)
  - use more general search terms
  - leave out a less important keywords
  - select a different literature database for your search

- **too many results** – possible solutions:
  - use more specific search terms
  - find additional aspects
• confine the results set using formal criteria (e.g. show only articles of the last decade, restrict to review articles, restrict to a single language – but please be aware that you might lose important items this way)

2. How do I obtain the full texts of the articles I have found?

2.1 SFX – Service, Fernleihe, eXtras (Service, interlibrary loan and more)

Many databases provide you with a link or button that you can use to access electronic full text: the link resolver SFX.

In some databases the SFX button is shown in the result list, while in others you have to go to the full details of the respective article.

By clicking on SFX, a new window or tab opens listing acquisition possibilities:

- If TUM Library offers the electronic full text (Elektronischer Volltext), this is shown directly at the top.
- A search in the local online catalogue (lokaler Katalog) will show you if the journal that published the article is available from TUM Library in print. If not →
- A search in the Gateway Bayern (Bibliotheksverbund Bayern), the catalogue of the Bavarian Library Network, is the next step; after that you can initiate an interlibrary loan.

Use the white-red arrow symbol at the end of each line to start the respective action:
• In the section Dokumentlieferung (document delivery) you can order the article via the document delivery service subito - to arrive within 24-72 hours. (This entails costs of at least €6.50). *(Exception in the physics faculty: orders from employees of the physics department via the document delivery service Getinfo (not in the SFX window) are paid for by the faculty if they use the registered faculty account; see https://www2013.ph.tum.de/fakultaet/services/bibliothek)*

2.2 And if there is no SFX?

If there is no SFX button in a database or you only have a bibliographic list of articles, you have the following possibilities:

**Searching for journals in the TUM Library online catalogue**

In the online catalogue of TUM Library you can find all print and electronic media available at the University Library.

**Attention:** Only independent publications are contained in the online catalogue, that is:

- Books – but no book chapters!
- Journal titles – but no journal articles!

Therefore, if you need a journal article, you should enter the **journal title** alone:

1. **Confine your search:** Additionally restrict your search for the article by choosing “Journal, Newspaper, Yearbook” as media type beneath the search fields.
2. If you are only interested in online journals, you can confine your search to online resources using the drill-down-menu next to the results list: choose Media Type "eJournal".
3. Search for the journal's ISSN using the search field ISBN/ISSN. The ISSN is unique and leads you directly to the right journal.
4. If you know the exact title of the journal, search using the field “Exact Title”. Also possible is the use of the field “Keyword in Title”. Put the exact title in quotes then. Using one of these methods you differentiate between journals with similar titles.

When you have found what you were searching for, there are two possibilities:

• The journal is available in print only:
  - view, copy or scan the article in the library or
  - order the article via the in-house article delivery service dokumenTUM: the scanned article will be emailed within 24 hours (weekdays) for free: [http://www.ub.tum.de/en/dokumentum](http://www.ub.tum.de/en/dokumentum)

• The journal is available electronically: a button labeled “Volltext EZB” (“full text”) is visible near the result in the online catalogue. Clicking it refers you directly to the Electronic Journal Library (Elektronische Zeitschriftenbibliothek, EZB) or the publisher’s page where you access the electronic full text directly. Off campus, you must log in via eAccess before you start your search.
The results view of a journal article in the Electronic Journal Library (EZB) contains information about licensing, a remark whether the journal is also available in a printed version and a link to the journal’s articles (full text).

Bauphysik

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Print version available too!

General information on the online edition:

Title: Bauphysik
Publisher: Wiley-Blackwell - STM ; Ernst & Sohn
Search publisher's open access policy in SHERPA/RoMEO
Subject(s): Architecture, Civil Engineering
Keyword(s): Bauphysik
E-ISSN(s): 1437-0980
P-ISSN(s): 0171-5445
ZDB-Number: 215193-9
Fulltext online since: Vol. 26, Iss. 1 (2004)
Homepage(s): http://onlinelibrary.wiley.com/journal/10.1002/abs...
http://www.wiley-vch.de/journals/wh-s
type: fulltext, online and print

The Library homepage (http://www.ub.tum.de/en) also provides access to the EZB: Searching & Finding => eJournals => Accessing eJournals via EZB. Additionally, you may log in to eAccess at this point in order to be able to access the licensed journals’ full texts from home as well (button “Off-Campus Access”).
The EZB lists all journals published electronically (on title level, **no individual articles**) and manages access to the respective online version. Availability of an electronic journal via TUM Library is indicated using traffic light symbols:

- Green: full texts are available for free
- Yellow: journal with costs, TUM Library has subscribed to – full text accessible
- Red: journal with costs, TUM Library has not subscribed to – full text not accessible
- Yellow-red: journal with costs, TUM Library has subscribed to particular years

The EZB can list all journals in alphabetic order or sorted by subject. Additionally, there are facilities for quick and advanced search:

2.3 **dokumenTUM – The in-house article delivery service of TUM**

2.3.1 **dokumenTUM for TUM students and staff members**

Via dokumenTUM, TUM students and staff members can order scans of journal articles and scans of chapters of books which are available at TUM in print only. For TUM members this service is free of charge. You will find the link to dokumenTUM in our OPAC.

First of all search your desired journal or your book in the OPAC. Now you click on the tab “Get document”. Below you see the term “SFX”: dokumenTUM. Follow the link on the right.
Now you are led to the same page of SFX, noticed before. This page is only in German language available. Use the arrow behind „Dokumentlieferung“ – „Bestellung über dokumenTUM oder Fernleihe“.
You log in with your library account after choosing the location of your branch library.

Click on “dokumenTUM oder Fernleihe” and fill in the desired year or volume if you want to order an article of a journal. At last you fill in the data of your desired literature and order with the button below.

We will scan the article for you and send the PDF document via email. On request, or if the file is too large to send via email, we will procure the file on our library server. In this case, the URL will be emailed to you so that you can then view, print, and download the document. For copyright reasons the file must be deleted from the server after 10 days.

Documents will be delivered at last within two working days (no Saturdays, Sundays or public holidays).

2.3.2 dokumenTUM for external users of TUM

For non-TUM members this service is fee-based. Non-TUM members can access dokumenTUM on our website www.ub.tum.de/en/ >> Borrowing & Ordering >> Document Delivery & Interlibrary Loan >> dokumenTUM.
There you find the prices and you may order via webform.
In the webform you fill in the data of your desired literature and order.

Due to licensing restrictions, electronic delivery by e-mail is not available for non-TUM library users. We provide your ordered articles and book chapters as a paper copy at your requested branch library. At the circulation desks you can pick them up against payment of the service fee.

2.4 Interlibrary Loan (ILL)

If you are looking for books or articles which are not available at TUM library or in any other local library, you can use our interlibrary loan service (ILL). We provide you with literature from all over Germany and abroad.

Please note that via ILL you may only order items that are not available locally. This means that if items are available from other Munich libraries, e.g. the Bavarian State Library, you can only order them through TUM at Garching, Weihenstephan or Straubing. Within Munich we would kindly ask you to visit the other libraries yourself.

2.4.1 Who can use ILL and what does it cost?

- All TUM library users holding a valid library card
- Within Germany: free of charge
- International ILL: price depends on shipping charges

You can borrow items via ILL using Gateway Bayern, the union catalogue of the Bavarian Library Network, for:

- Interlibrary loan within Bavaria
- Interlibrary loan within Germany
- International interlibrary loan

2.4.2 Interlibrary Loan within Bavaria

Our central search and ordering platform for ILL is “Gateway Bayern”, the union catalogue of the Bavarian Library Network (Bibliotheksverbund Bayern - BVB). You can order books and articles from other Bavarian
libraries here, but also literature that is not available in Bavaria. You can search Gateway Bayern via the website www.gateway-bayern.de.

2.4.3 Interlibrary loan for books

You can use the simple search or the advanced search to find the book you need. In the lower part of the full display on the result page you will see a list of all the libraries where the book is available. If none of your local libraries is listed here, you can order the book via ILL. Click on the SFX button. (SFX stands for “Services, Fernleihe und weitere eXtras”, in English “Services, interlibrary loan and more”). For more information about SFX see chapter 2.1.

The SFX menu opens up. Then choose the option “Fernleihe im Bibliotheksverbund Bayern” (interlibrary loan via the Bavarian Library Network).
In the next window, you choose your branch library location (Munich, Garching, Weihenstephan, Straubing) and log in to your account entering your TUM library user number and password. Confirm by clicking “log in”.

In the order form below you need to enter the following information:

In the upper left part of the form, you will see customer details and delivery details. Within Germany, borrowing books via ILL is free of charge. Choose the TUM branch library where you want to pick up your book. If you cannot select your branch library, please log in again using the right library location (see previous step).

In the lower part of the display, you will find the most important information about the book (title details). Please let us know if you would accept a different edition as well. Please check all the details before you submit the order.

Usually a book arrives within 14 days at last. You will then be advised via email. The standard loan period is four weeks.
2.4.4 Ordering journal articles via interlibrary loan

Via Gateway Bayern it is also possible to order copies of journal articles. Please notice however, that you may only find journal titles, not titles of journal articles.

So we recommend searching for the journal title or the ISSN.

Now click on the desired title. It doesn’t matter whether you use the electronic or the printed version.
In the full display you will find a list of all the libraries that currently hold the journal. However, this does not tell you where the volume you need is available. Once again, SFX will help you: Click the SFX button and choose the option “Bestand im Bibliotheksverbund Bayern” (holdings in the Bavarian Library Network).

This will give you an overview of where the volume you need is available and if ILL is possible.
Example: The volume 2009 is available at the Bavarian State Library. Therefore, ILL is possible only at our branch libraries in Garching, Weihenstephan, and Straubing. If you are a user of our branch libraries in Munich, we kindly request you to borrow the book directly at the Bayerische Staatsbibliothek.

If you want to borrow the article via ILL, please close this overview and go back to the SFX menu. Click on “Fernleihe im Bibliotheksverbund Bayern” (ILL via the Bavarian Library Network). After logging in to your account, you need to fill in the year and the volume of the journal article you want. Confirm with forward.

You are almost finished: The last step is to add all the required information about the article (title, author, pages) and submit the order (“send interlibrary loan request”).
Articles out of journals and books are delivered to you as hard copy. A small fee for expenses will be charged (e.g. 1.50€ up to 40 pages). You will be notified via email as soon as the copy arrives in the library. Please note that journal articles ordered via ILL will not be displayed in your online account (books, in contrast, will!).

2.4.5 Interlibrary Loan within Germany

What happens if you don’t find the item you need in Gateway Bayern? You can search more databases to locate books and articles from all over Germany – still using the Gateway Bayern search interface. In the advanced search form, please select all other catalogues of the other German library networks first (in the lower part of the form). Then search again to find out which libraries in Germany hold the item you need. The ILL order process is then identical to ILL within Bavaria (see chapter 2.4.3).

2.4.6 International interlibrary Loan

Even if you do not find what you are looking for in German libraries, you can still place your interlibrary loan order via Gateway Bayern. If, after your search, you have received the prompt "No matches were found for your search" or you cannot find the title you want, click on "Additional Services" in the menu above and then select the link "Interlibrary loan (only for users of libraries in the Bavarian Library Network)".
Then submit your order by choosing one of the following options:

- Interlibrary loan request (book)
- Interlibrary loan request (copy from a book)
- Interlibrary loan request (copy from a journal)

After logging in to your account, you will receive the ILL order form. Please fill in the required information and our document delivery team will find out which library can provide the desired literature.

For orders from abroad, different charges apply depending on the country. Before ordering from abroad, you will always be informed of the approximate costs so that you can then decide whether to accept them or to cancel the order.

3. How do I use references properly?

If you are writing an academic thesis, you do not have to reinvent the wheel. You are allowed and encouraged to begin with findings already established by others in your field: science is a collaborative venture! However, in general the findings of other authors are protected by copyright. For this reason, if you want to reuse these results, you must indicate precisely where you found it and who the original author is. The essential quality here is retraceability. Retraceability is the identifying feature of “proper academic work” and, what is more, it enables readers of your article to take a look into the same sources you did. This way, your readers can judge whether your sources support your claim. Also, they can build upon your findings.

The highest virtue of academic work is clearly separating your own achievements from those of others. Therefore, this chapter will concern itself with the following questions:

- How do you mark other people’s thoughts, findings, points within your work’s text?
- How do you list sources in your reference list?
- How do you connect the citations within the text to the reference list?
- What formal referencing rules are there?
- What tools can help keeping track of your references?

In the next chapters we will give you an introduction to “Citation”, detailed information you will find in the lecture notes “TUM Citation Guide” https://mediatum.ub.tum.de/?id=1225458; they are listed in the OPAC, too.
3.1 Why reference at all?

There are important reasons why you have to give references. The most important one is that other authors’ findings are protected by copyright – they may only be used if they are recognizable as achievements of their respective authors. However, there are also practical reasons for declaring one’s sources and even positive effects on your thesis. Purposes of quotations include:

- making visible which thoughts are specifically yours as opposed to those of others
- showing that you are familiar with your area of research and that you know how your work relates to it
- recognizing the achievements of other authors, the pioneers in your field

Being part of the scientific community, it is surely in your interest that other authors recognize your work and refer to you instead of portraying it as their own!

Umberto Eco hit the nail on the head when he wrote in his book “Wie man eine wissenschaftliche Abschlussarbeit schreibt. Doktor-, Diplom- und Magisterarbeit in den Geistes- und Sozialwissenschaften” (“How to write a thesis. Doctoral, diploma and magister theses in humanities and social sciences”):

“Ein Buch zitieren, aus dem man einen Satz übernommen hat, heißt Schulden zahlen.”¹ (Eco 2010, 213)

3.2 When and what do I have to reference?

In principle, you have to give references for everything you take from your sources, be it directly or paraphrased. The reader of your text has to be made aware of what your own work is and which results you have taken from others.

Conversely, this also means:

Contents that are stated in many sources and are not new, controversial or unusual, do not have to be referenced. Specifically, this includes general knowledge (e.g. the Fall of the Wall was on 09.11.1989, the formula E=mc² from Einstein) and basic knowledge in your field (e.g. the laws of thermodynamics in physics). The boundaries here may be slightly blurred, though, so please ask your advisor if you are unsure. When in doubt, it is better to have too many references than too few.

You should always cite from the original source if it is available. Quotations of quotations, so-called second-hand quotes, should only be used if the original source cannot be obtained with reasonable effort. If you have to use a second-hand quote, this has to be indicated appropriately.

Example: Meier 2010, S. 100, as cited in Müller 2011, S. 50.

The source has to conform to the standards of academic work. That is, you should not quote from sources whose authors are unknown or that generally appear unreliable. Citing a claim from a source that does not, in turn, give reasons for this claim cannot be reconciled with scientific methods. It is precisely for this reason that many professors are opposed to quoting from Wikipedia, where often no references can be found. Wikipedia increasingly emphasizes proper citations, but even in this case, it is better to go to the original sources and find scientific evidence for your claims.

Incidentally: Copyright allows you to cite in academic texts. This does not mean, though, that you do not have to give references for contents in the public domain (e.g. because the author has been dead for more than 70 years or the content has been published using an adequate license). You do not solely reference for legal reasons, but also for reasons of proper academic work, which were mentioned above.

¹ “Referencing a book from which you have taken a sentence means to pay your debts.” (own translation)
3.3 How do I quote?

There are different ways to include others’ findings and thoughts in your text.

3.3.1 Direct quotations

The mentioned sentence from Umberto Eco “Ein Buch zitieren, aus dem man einen Satz übernommen hat, heißt Schulden zahlen” appears in exactly this manner in Umberto Eco’s book. It was cited directly, i.e. verbatim, in this script. Direct quotations are used when the exact wording is important. Direct quotations have to be set apart using quotation marks and must be reproduced exactly as they appear in the source. This is true even for spelling errors and special font styles such as italics or bold text. Direct quotations are especially common in the humanities, where the exact wording of a source is important. Otherwise, direct quotations should be used sparingly or very rarely. Direct quotations always remain in their original language; a translation can be provided in a footnote, if necessary.

3.3.2 Indirect quotations

In order to include others’ opinions or findings in your text, you do not have to cite them verbatim. Instead, you can summarize them in your own words. This method does not absolve you from having to mention the author, that is, to pay your debts! This last clause should seem familiar to you. It is from Umberto Eco 2010, S. 213. This way to refer to another author is called indirect citing. In the STM disciplines (STM = Science, Technology, Medicine), as well as the economic and social sciences, this type of quotations is prevalent.

3.4 How do I put references inside my text?

The purpose of references is mentioning the original author of quotations and allowing readers to retrace the source. For better readability, you normally do not include full references in the main text. Instead, full source descriptions are collected in the reference list at the end of the text. Within the text, you simply use a number or the author’s and article’s name, either in parentheses directly following the quotation or as a footnote. These place holders associate direct and indirect quotations with their full reference information in the reference list. Which type of place holders you use and how, depends on your citation style.

3.4.1 Citation styles

A large number of accepted citation styles exist. Scientists and publishing houses develop and maintain these different styles. Therefore, almost every field of study in modern science and almost every publisher and journal has its own rules for formatting references.

The style to use in your thesis will be prescribed by your advisor or the department/chair you are studying or working at.

If you are not instructed to use a specific style, you should use a style that is customary in your field. Despite that you can always style your references according to DIN 1505 – this standard is valid throughout Germany.

In our “TUM Citation Guide” a chapter is called “Recommendation on citation styles at TUM”. There you find explanations to the following citation styles: APA style, IEEE editorial style, Chicago style.

In addition to the form of the reference list, the citation style also determines how to include references in the main text. There are three main styles:

- the author-year system:
  using full names, e.g. Maier (2007), (Meyer 2011), (Meyer 11) or
using abbreviated names, e.g. [HPPT92], (MEY 11)
→ in the reference list:
  o (Meyer 2011) Meyer, Michael: Dummy Title. Town: publisher, 2011. or
- **the numeric system**, e.g. [5]
- **the footnote system**, e.g. Quotation³
  → at the bottom of the page on first reference to a source:


→ with all further mentions of the same title:

³ Meyer 2011

If you want to refer to a specific part of an article or a book, you should indicate this as accurately as possible, that is, include page numbers or other numerations used in the source of your reference. Every citation style has rules for mentioning page numbers in short references. Often a comma and an “S.” (for “Seite” or “Seiten”, page or pages) or “p.” (for “page”) respectively “pp.” (for “pages”) is used, e.g. (Meyer 2011, S. 3), (MEY 11, p. 3), [5, pp. 3-4].

When quoting a full section from a book or article, you do not need to add a reference to every sentence. Instead, put a mark at the beginning or at the end that makes clear that your reference is meant to refer to the whole section, not only the first/last sentence, e.g. “The following section summarizes the results from [9].”

You do not have to know the formatting conventions of a style by heart – that is what reference management software is for.

### 3.4.2 Quoting and referencing in the economic and social sciences

Indirect quotations are very common in the economics and social sciences. Here, it is important to render the quotation in your own words instead of just exchanging single words.

Direct quotations are common, too, but should be used sparingly and only if the exact wording of an opinion or line of thought is important. Long direct quotations should be separated from the main text by using indentation (on both sides) and/or italics. In this case, you do not have to use quotation marks. Pay attention to an exact reproduction of the quotation and indicate omissions with an ellipsis in square brackets (that is “[…]”).

Two styles for references are prevalent in the economic and social sciences: short references following the author-year system, and the footnote system.

### 3.4.3 Quoting and referencing in natural sciences, technology and medicine (STM)

In the STM disciplines, findings mostly do not depend on exact phrasing, but are theories, theorems, surveys, results of experiments etc. and are mostly quoted indirectly. In the main text, short references are customary (numeric or author-year system); footnotes are not common.

Literal quotations are rare and should only be used if the exact phrasing of the source is important. Quotation marks are not always used, e.g. when quoting a formula or a mathematical theorem “literally”.

The main text may mention the author or just have a short reference.
Examples:
From the survey due to Maier and Müller [7], it is known that …
As the solutions of this equation are always bounded [8, Theorem 1.7], we have …

As mentioned above in section 3.4.1, you should always make your references of parts of a book or article as precise as possible, that is, include page numbers or other numerations used in the article (as in the last example) in the short reference.

3.5 Reference management software – yes! But which one?

Reference management software allows you to quote and reference automatically in the right citation style. Reference management software also allows you to

- collect literature references and files
- manage literature
- keep an overview, even over a long time
- export bibliographies
- import references into your word processor automatically

Thus, using reference management software for theses is worthwhile. There are quite a few to choose.

The TUM University Library offers a campus license of Citavi and EndNote for all TUM members. You can use these softwares for free.

3.5.1 Citavi
(www.citavi.com)
While Citavi was written for the Windows operating system, it can be used on Linux and Mac computers using a virtualisation software.
Citavi is a widely-used system in German universities featuring intuitively usable interface in German, English and Polish. In addition to reference management, it offers yet other valuable functions like knowledge organisation and scheduling.

Citavi in 3 steps:
1. Download and install the free version:
   This version offers the full functionality of the commercial version, but supports only 100 titles per project.

2. Apply for a license key:
   www.citavi.de/tum/
   Register using your TUM email address: e.g. @tum.de or @mytum.de

3. Enter the license key into Citavi:
Enter this data at “Help => License data => Enter license data for Citavi Team”. Now you have the full version of Citavi Team with the ability to store arbitrary numbers of titles and share projects with others.

3.5.2 EndNote
EndNote (http://www.endnote.com) and EndNote Online (https://www.myendnoteweb.com/EndNoteWeb.html)
EndNote is a classical reference management system to be installed locally. It is available for the operating systems Mac OS X and Windows. It is able to import many types of data, and offers many ways of editing and enriching literature references.
Since the beginning of March 2012, TUM Library offers a campus license for this software, allowing you to use it for free. EndNote Online can be used either as an online extension for EndNote or as a separate tool, where EndNote Online has slightly fewer function in comparison to EndNote. EndNote Online can be used for free via the TUM University Library. The subscription is included in the “Web of Science” license. You only need to set up an account. As EndNote Online is included in the “Web of Science” database, importing data from there is especially comfortable.

To download the desktop version of EndNote see: [http://www.ub.tum.de/en/endnote](http://www.ub.tum.de/en/endnote)

### 3.5.3 Free software

**Bibsonomy** ([http://www.bibsonomy.org](http://www.bibsonomy.org))

Bibsonomy is a social bookmarking system. Users of Bibsonomy can collaboratively store, manage and describe bookmarks and literature references. By assigning tags, the stored information is structured and can be easily found using tag clouds. Within the system, multiple users can form interest groups.

**JabRef** ([http://jabref.sourceforge.net](http://jabref.sourceforge.net))

JabRef is a free reference management software for use with LaTeX. It allows organising and editing BibTeX files via a comfortable user interface. JabRef is available for Mac OS X, Linux and Windows.

**Mendeley** ([http://www.mendeley.com](http://www.mendeley.com))

The desktop version of the reference management software Mendeley is available for all popular operating systems (Mac OS X, Linux and Windows). In addition, there is a web service that provides the functions of a social network besides being usable for reference management. Features include on-topic discussions about scientific topics and collaboration within groups.

**Zotero** ([www.zotero.org](http://www.zotero.org))

Zotero was originally developed as an add-on for the Mozilla Firefox browser. By now, a stand-alone version for Mac OS X, Linux and Windows is available, as well as so-called connectors for use with Google Chrome and Safari. As a special feature, data collections may additionally be stored on the Zotero web server (providing automatic synchronisation), where groups may be founded, too. Using this feature, it is possible to collect and edit literature sources collaboratively within interest groups.

### 3.5.4 Commercial software

**RefWorks** ([www.refworks.com](http://www.refworks.com))

RefWorks is a web-based reference management software that you can use to create your personal online database containing publication references and full texts. With its included “RefShare” service, the system offers the additional possibility to share parts of your collection with others and to start communicating.

**Online comparisons of reference management software:**

[https://mediatum.ub.tum.de/node?id=1231325](https://mediatum.ub.tum.de/node?id=1231325)
[http://wiki.services.openoffice.org/wiki/Bibliographic_Software_and_Standards_Information](http://wiki.services.openoffice.org/wiki/Bibliographic_Software_and_Standards_Information)

### 4. Contact the TUM University Library

**General questions:**

- Email: information@ub.tum.de
- Telephone: +49 (0)89 189 659 220
- WhatsApp: +49 (0)173 861 84 12
- Chat: [www.ub.tum.de](http://www.ub.tum.de)
Questions concerning reference management software and quotation?

- Email: literaturverwaltung@ub.tum.de
- Lecture Notes: "TUM Citation Guide" [link](https://mediatum.ub.tum.de/?id=1225458)
- Courses to reference management software Citavi and Endnote
- Course “Cite it right”
- Reference Management and Citation Drop-in Session.
  Additional to our courses we offer a drop-in session for individual questions every week. You find all dates on our homepage ([www.ub.tum.de/en/workshops](http://www.ub.tum.de/en/workshops)).

References


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