



Study Techniques and Study Culture

How to make the most of your studies at the Faculty of Life Sciences

A guide for international students

STUDENT SERVICES

February 2008
Available at www.life.ku.dk/student-services

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How to make the most of your studies at
the Faculty of Life Sciences.
A Guide for International Students

Published by Student Services,
Faculty of Life Sciences, University of Copenhagen,
February 2008

This guide is an adapted version of "Study Skills for International Students", written by Thomas Harboe & Rikke von Müllen, The Educational Centre of Social Sciences, University of Copenhagen, 2007.

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Dear Student

Welcome to the Faculty of Life Sciences, University of Copenhagen. This guide is aimed at international students who are studying in Denmark for the first time. The main objective is to introduce to you the key features of Danish study culture and to present a number of study techniques that hopefully will make it easier for you to manage and get the most out of your studies at the Faculty of Life Sciences.

Worldwide, university students are facing many of the same challenges. They have to plan and structure their studies. They are expected to study efficiently, take useful notes, and make the most of teaching, group work and supervision.

In addition to these universal challenges, international students also have to face the challenges of living in a foreign culture. Besides all the formal issues they have to deal with, they are forced to adjust rapidly to new teaching methods, expectations and criteria which may be quite different from the ones at home.

Some international students, e.g., find it difficult to interpret the formal rules concerning referencing, ownership and plagiarism, or they obtain unusually bad grades for their papers because the evaluation criteria are not always stated explicitly.

The present guide does not deal with and will not solve all problems related to cultural challenges and study skills. In case you need help and support at some point, you are welcome to contact Student Services. You will find our contact details in the back of the guide, as well as a bibliography with suggestions for further reading.

We wish you the best of luck with your studies at the Faculty of Life Sciences.

Student Services

www.life.ku.dk/studentervices

Assess your attitude and learning style

Before you read on, we suggest that you do the following exercise. It will offer you an insight into your present attitudes towards studying and learning. The aim of the exercise is to show you where and how to intervene if you want to improve your learning. Repeat the exercise after a couple of months to find out whether you have succeeded in improving.

<i>Circle a number between 1 and 5</i>	False	Partly false	Neither true nor false	True	Very true
Attitude towards learning					
I believe in my own capability	1	2	3	4	5
I participate actively in classes	1	2	3	4	5
I ask questions during classes when there is something I do not understand	1	2	3	4	5
My goals and ambitions are realistic	1	2	3	4	5
I find my studies interesting	1	2	3	4	5
I do not suffer from stress as a result of my study tasks	1	2	3	4	5
I enjoy concentrating on academic material	1	2	3	4	5
Learning efficiency					
I am good at planning my studies	1	2	3	4	5
I stick to my study plans	1	2	3	4	5
I always embark on new tasks as early as possible	1	2	3	4	5
I divide large tasks into smaller parts which are easier to cope with	1	2	3	4	5
I study when I am rested	1	2	3	4	5
I take breaks when needed	1	2	3	4	5
I know how to avoid interruptions	1	2	3	4	5

I'm able to concentrate on my studies	1	2	3	4	5
I'm efficient when I study	1	2	3	4	5
My experience with group work is positive	1	2	3	4	5
I think that it is important to work with other students	1	2	3	4	5
I do not suffer from writer's block	1	2	3	4	5
I write – often and a lot	1	2	3	4	5
I take useful notes during classes	1	2	3	4	5
I am good at highlighting central points in my sources – neither too much nor too little	1	2	3	4	5
I take useful notes when I study	1	2	3	4	5
I always try to get a general idea of a text before I read it in detail	1	2	3	4	5
I adjust my reading technique to the purpose of my reading	1	2	3	4	5
I am good at separating relevant from irrelevant when I study	1	2	3	4	5

1. Motivation and concentration

Motivation, determination and self-discipline are essential for completing a university programme.

Especially self-discipline is a key to every study technique. As a university student, you are in charge of your own course of study. No one checks whether you are studying hard enough, whether you attend classes or whether you submit your essays or assignments. It is your own responsibility to learn, and it may be a heavy responsibility to face alone.

Although there are exceptions, students are generally only tested at the end of each individual course the Faculty of Life Sciences. Therefore, it is essential for you to be active from study start and to maintain your initial interest in the subject you are studying. Even if you grow tired of the texts with which you are currently struggling, try to remember that it is a means to an end.

However, studying has more to it than just self-discipline and motivation. It is also important to do things the right way. Often students do not lack motivation, but more often lack knowledge and experience when it comes to organising their studies properly. For instance, it is beneficial to reread your notes and core parts of your syllabus before your exams. Also, it is important to focus, analyse and reflect while you read your assigned texts.

Concentrate on what you are doing

First and foremost, concentration is about avoiding thinking about other things when you study.

To enhance concentration, it is important to:

- maintain your curiosity and keep your research question in mind when you read and write;
- take notes while you read; and to
- vary your tasks during the day.

Furthermore, concentration is about keeping noise and unnecessary interruptions at a minimum. In this respect, the important thing is to identify and avoid disturbing elements in your surroundings – especially when you are in the process of writing a research paper or studying for an exam.

Where do you work most efficiently?

If you are easily distracted, try to establish a work place at a location without too many disturbing elements. A place where you are outside the reach of the good intentions of your friends, where you can have all your study materials to yourself, and where you may come and go as you please.

The Faculty's library has quite a number of well-equipped work stations for students. The library may not be the best solution for you but for lack of a better solution, it may prove useful. Another possibility is to book one of the many group rooms, if you want a quiet place to study.

Please contact the Student Services for information about additional locations where you may study in peace.

2. Planning

Planning is essential if you want to improve your study skills. A well-organised study plan gives you an overview of your tasks. It makes it possible for you to distribute your tasks across each block and to prepare everything well in advance. It is thus a way to ensure that you are not overwhelmed by unwritten essays and unread texts at the end of the block.

The trick is to prepare a study plan that which provides a long-term overview while giving you a short-term detailed time table of your tasks here and now. The important thing is to divide and prioritise your daily tasks, thus ensuring that there is enough time for all of them – both your study related tasks and your other chores and activities.

Begin each block by preparing a study plan

It takes time to make an efficient study plan. However, the time you spend on planning is quickly made up for by the prioritisation and determination you achieve in your performance.

Seek advice about which and how many subjects you should sign up for. Perhaps you are used to attending 5-6 subjects in the course of a semester. However, students at the Faculty generally only attend 2 courses in each block. A course may very well be demanding and strenuous even though it does not have that many weekly lectures, and experience shows that many international students underestimate how much time is required for independent studies outside the classroom. Student Services is able to help you get an overview of the levels and workloads of your courses.

Begin your planning in the following manner:

- get a comprehensive overview of your expected tasks;
- be aware and realistic of your engagements and activities outside your studies;
- prioritise your tasks;
- set deadlines for the various tasks and sub-tasks; and
- establish fixed working hours.

Remember that goals, work schedules and deadlines must be realistic!

It is always a good idea to embark on tasks early. When you start working on a task, you will discover that your subconsciousness starts to work for you.

Planning requires overview

In order to prepare an efficient study plan, you have to take a general view of your syllabus, your subjects in a particular block and your other activities.

You can read about the contents and aims of the individual courses in the curriculum or the course descriptions. The most recently updated versions are always available on the Faculty's website.

For every course, the lecturer prepares a course plan. It states the specific focus area of the individual lectures and moreover, the material which you are expected to read and prepare for each individual class. The course plan is usually handed out during the first lecture or is available on the homepage of the course.

In the course plan you are able to see how your lecturer prioritises the subjects of the course. Which subjects are connected? Which subjects are given more attention than others? Most lecturers give an introduction to the course in the first lecture of the block.

Furthermore, you are given a list of the syllabus and a bibliography, which enables you to see the topics you will cover as part of the course. The syllabus is the material you *must* read. Often the bibliography indicates secondary reading material within the scope of the subject.

In other words, on the basis of the syllabus list, you will be able to figure out the number of pages you must read each day in order to have read the entire syllabus before the exam. However, this only serves as a guideline, and when you study a subject it is never enough just to read the pages stated in the syllabus (please, see the chapter about reading technique).

A general assessment makes it easier to prepare a useful study plan. Begin by assessing the long-term plans, establishing a general impression of the block ahead of you. Place this plan on your notice board or your refrigerator where it may act as a general overview of your study activities during each block.

Break your tasks down into smaller parts

After preparing your study plan for your whole stay at the Faculty, the individual tasks may be broken down into smaller parts. In that way, you only have to focus on one small part at a time, while still being able to maintain the broader perspective! The point is that you should come to view your course of study as a process where every part contributes to your academic development.

For every part, you must draw up a detailed short-term study plan and keep this plan up-to-date on a running basis as regards actual plans for reading and writing in the course of the coming weeks and days.

If you need help to develop a study plan, you are welcome to consult Student Services.

3. Active participation in learning activities

Traditionally, the basis of teaching at Danish universities is the active student. Students are thus expected to ask questions and be critical towards the topics discussed in class. In that respect, Danish students are trained to take responsibility for their own learning.

This tradition is based on the assumption that students learn very little from passive participation in lectures, i.e. just by listening. Students need to work with the material themselves, need to have discussions, analyse, calculate and use the academic material in order to memorise it and be able to put it into use outside the classroom.

It is also important to ask questions; not only when you are missing a factual piece in your knowledge puzzle, but also at a more abstract level. No theorist is such an authority that it is useless to question whether his or her theories may be flawed, or if it is possible to further substantiate or concretise the theory. It is a core constituent of an academic programme that the accepted truths of a subject are continuously tested.

This type of critical analysis is rewarded in the Danish educational system. The highest grades are awarded to the most independent performances, and this is just one more reason for practicing this type of independent analysis and discussion during classes, whenever opportunity presents itself.

Speak up at the right time

In other words, it is important not to be afraid of speaking up in class. Of course, you should only take the floor if you have relevant contributions to the discussion. The trick is to be active in an academic and constructive way.

There are several ways to participate actively in classes:

- short student presentations which have been prepared at home;
- discussion groups focusing on a specific topic or question;
- plenary discussions where the lecturer chairs the meeting;
- elaborate questioning of the syllabus or illustrations;
- discussion forum on the homepage of the course; and/or
- taking notes.

If you are not ready to take the floor in class yet, it may be rewarding to take some time to learn how to prepare a productive introduction to a debate. As a starting point, listen to the other students, how they formulate their questions and put them forward in the classroom. However, try to make yourself heard in class at a relatively early stage (the sooner you voice yourself, the more natural it will be to yourself and the rest of the students that you make yourself heard). For example, try to prepare a short presentation with a single clearly stated point that you wish for the class to discuss or the lecturer to comment on.

Of course the fact that the courses are not necessarily taught in your native language does not make it easier for you to participate in the discussions during class. However, English is not the native language of the Danish students either, and the lecturers as well as your fellow students are usually very tolerant towards less than perfect formulations. The important thing is that you take the chance to formulate your questions and thoughts, which allows you to practice putting the material into use and reflect on it actively.

The role of the lecturer

Most Danish university lecturers are scholars who have other duties besides teaching. Consequently, your lecturers possess an academic knowledge and insight from which you may benefit. However, even though the lecturers possess an academic expertise, they are not to be perceived as authorities who should not be contradicted in an academic and constructive way.

During class, this is often reflected in the fact that the lecturers expect discussions and active participation from the students.

To a large extent, conventional lectures for large groups of students are still found at the Faculty. However, lectures are often supplemented by classes with fewer participants where group exercises, student presentations and plenary discussions take place. This way, teaching becomes more fun and educational for the students as well as the lecturer.

4. Reading techniques

There is a lot of reading to be done in all university programmes. Furthermore, several Danish study programmes are characterised by a limited amount of lectures and a comprehensive independent study programme. This means that students study more or less independently, and learning texts by heart is not enough. In other words, it is not enough just to read a large quantity of material thoroughly or a sufficient number of times. The important thing is that the students themselves are capable of actively processing the material, whether independently or in groups.

Nevertheless, students tend to focus on the amount of material which have been read or more accurately, on the amount of unread material which accumulates on the desk and is the cause of a guilty conscience.

The large amount of unread material may of course be caused by the fact that a student is lazy, unmotivated or preoccupied with other matters; or that the syllabuses are too ambitious and impossible to get through. And naturally, studying is made all the more difficult when the material is not written in the student's native language.

Many students think that they are slow readers. However, experience has shown that it is rarely "the number of lines read per minute" which causes problems.

First and foremost, the problem is that students read in the wrong way. For example, many students tend to commence their studies by reading page 1 of the first book in the syllabus without establishing what and why they are reading. Instinctively, they read the books linearly from beginning to end. The disadvantage of this reading method is that the continuity of what is read is lost.

This chapter outlines a useful study strategy; a strategy which you may apply regardless of the type of book you are reading. It is important that you are aware of how you go about a study book from the first time that you hold it in your hands until you – if necessary – read the book thoroughly.

Before you read the book

It is possible to read a text several times without understanding any of the content or its purpose. If you do not think about and reflect on the material you are reading, you will not learn anything. Consequently, you should start by posing two questions: What type of text is this? What is the aim of the text?

Question 1: What type of text is this?

In order to be prepared for the new text, it is a good idea to draw parallels to other texts you have read. Take the time to make an assessment of the structure of the syllabus texts. How are they usually structured? Which elements are typically included in the texts? It is important that you become aware of the different types of material (genres) you are reading, and are aware that the structure and content of the different genres differ to a great extent. This is best illustrated by two very different types of material you will inevitably come across in the course of your programme:

Textbooks: Some of the books you will come across at the Faculty look a lot like ordinary school books, the purpose of which is to convey knowledge and teach. Textbooks very rarely discuss anything, and it is therefore important that you remain critical of the content. The chapters in textbooks are typically not written to be read in a prescribed order, but rather subject by subject as is the case in encyclopaedias. Consequently, you may read the individual chapters in random order and still appreciate the overall meaning.

Research reports: Research reports have an altogether different purpose than textbooks. In these, analyses, discussions and the evaluation of the research results count. The object is not to convey knowledge or explain scientific terms. Therefore reports are sometimes difficult to read. Nevertheless, these texts are made up of relatively obligatory elements, you may use as guidance (some are mentioned on the next page). Moreover, the structure of research reports is usually less flexible than the equivalent in textbooks. Chapters often follow a continuing argumentation, which makes it difficult to read the chapters in random order.

As seen above, the different types of text you come across in the course of your study differ to a large degree, which makes it necessary for you to read them in different ways.

Question 2: What is the aim of the text?

It is of course difficult to establish one book's actual relevance to you and your studies in advance. You have to crawl before you learn to walk, and it is not unusual that the underlying relevance of a book becomes apparent a long time after you have finished reading it. But remember that, academically speaking, you never start from scratch. You always possess relevant knowledge and references which you may use to assess new texts. You have already obtained relevant knowledge through previous studies and school attendance, television, newspapers, etc.

You should insist on placing yourself in the centre of things. The books are made for your benefit – not the other way around. In other words, do not allow yourself to be controlled or impressed by the books and their authors. You must dare to prioritise and decide which subjects are important to you, e.g. a subject you are having trouble understanding.

Naturally, an exam or a specific written assignment makes it easy to establish the relevance of individual texts. If the text forms part of the syllabus, it is usually relevant to you no matter what you might think of it otherwise. However, it is rare that all texts are included in a project report or an exam in the exact same way or at the exact same level, and consequently, you have to carefully consider which type of problem you are about to solve. Does the text offer key information about the subject? Or is only secondary information offered?

Entering the reading process

It is always a good idea to begin your reading by familiarising yourself with the text. If you read slavishly from page 1 and onward, you risk losing the broader perspective. Furthermore, it is not uncommon to lose concentration if a text is read linearly from A to Z, because then the text – and not you yourself – is in charge of your studies.

Every time you receive a new syllabus book of 200-300 pages, you should spend an hour familiarising yourself with it. This is the best way to really get an overview of the content of the book and its core subjects before you decide how to read it.

Four efficient ways of familiarising yourself with a new text are:

Read the parts that offer the most comprehensive view of the text

Most texts have a number of “keys” which may be used to identify the structure of the text as well as its core points. Well-written texts contain most of the keys below, which make it possible to quickly get an idea of the text. Other texts are less informative in terms of aiding the reader in getting a quick overview.

- Title
- List of content
- Headings
- Subordinate headings
- Preface
- Text on back of book
- Illustrations
- Entries in the margin
- Words in bold
- Textboxes
- Figures, graphs, models
- Abstracts in the text
- Index
- Index of names

Read the beginning and end of each chapter

Many textbooks use space to guide the reader around the book. Often, every new chapter starts by offering the reader an overview of the central points of the chapter as well as the chapter’s connection to the other chapters. Likewise, there are textbooks which sum up the central points at the end of each chapter.

Read the introduction and the conclusion

As for research reports, the introduction and the conclusion offer a comprehensive overview of the text. The introduction will reveal the focus area of the text and its positioning in relation to other academic texts. The conclusion offers a short summary of the key questions of the text and tries to answer these on the basis of the analyses which have been carried out.

Write, draw or discuss your way to a preliminary overview

Generally, it is advisable to never just **read** a text – remember also to **work** with the texts you read. This also applies to the initial reading phase during which you combine the overview reading with other activities, which allows you to see the broader perspective. Below are four proposals for the above:

- Draw a mind-map (cf. chapter 5) of your initial impression of connections and points in the book.
- Write a short piece on your first impression of the book.
- Ask your fellow students what they think are the central points of the book.
- Ask your lecturer what the overall themes of the book are, and which chapters are connected.

Selecting the right reading technique

Even when you have applied the above techniques to create an initial overview of the text and have decided that you wish to read the text, there are different ways of reading it. You would never read a crime novel in the way that you read a syllabus book. You read the crime novel for the sake of entertainment and suspense and you do not need to remember the details. However, syllabus books are read because they contain important information, which form part of your long-term study process. Consequently, the purpose of reading is an altogether different one in this case. Your choice of reading technique depends on the purpose of reading.

The textbox on the following page describes various reading techniques and their individual purpose. In the course of your programme, you are bound to use all five techniques of reading.

	READING TECHNIQUE	PURPOSE OF READING
Reading to create an overview	You take a quick view of a text by reading title, chapter and paragraph headings, preface, list of contents, models, illustrations, the text on the backside, conclusions and, if any, abstracts.	To find out what the text generally discusses, how it is constructed, establish degree of difficulty and if it is of any use to you. Reading to create an overview is applicable e.g. when you are about to read a new syllabus book or search for references.
Skimming	You make a quick scan of the text without paying attention to details by skimming the pages and only focusing on keywords and important sections. You do not pause to reflect on the information contained in the text.	To get an idea about the content and the headlines of the text or to find certain sections of the text you wish to read more thoroughly. Skimming is applicable e.g. when you need an overview of the content of a text or need to read many pages fast.
Normal reading	You read the entire text to understand the meaning of the text. It is probably this type of reading that you associate with studying.	To form a whole, comprehend the message, the process of thought, the argumentation, the issue and the results. Normal reading is used when reading introductory literature to a subject, e.g.
Intensive reading	You read the text word by word, while simultaneously taking notes and making comments in the margin. You are interested in all details of the text, and may even repeat the material subsequently.	To read the text in detail in order to be able to recollect the content and factual information, to know it by heart and be able to render the slightest thing in the text. Intensive reading is applicable e.g. when there is a demand for exact active knowledge.
Selective reading	You read the text with a particular point of focus, perspective or with respect to a particular issue. You use the text while reading it.	To find particular information or explanations which you use in a particular context. Selective reading is useful when you are working on a paper, e.g.

Divide your reading into phases

As mentioned above, it is generally a bad idea to just read. Remember to somehow process text you have read. If, e.g., you are about to read an important book which does not immediately make sense or offer a general idea about the subject, you may prepare a schedule of how you are going to read it by putting the different reading techniques into use. In between, you may leave time to work on the meaning of the text, e.g. by means of mind maps or group work.

Phase reading of larger texts

Read introduction, etc. to get a general idea of the text	- 45 minutes
Draw a mind-map of the main parts of the text	- 10 minutes
Break	- 10 minutes
Read sections which have been singled out intensively	- 45 minutes
Write a short summary of the read text (speed-writing)	- 10 minutes
Break	- 10 minutes
Look up key terms in encyclopaedias	- 30 minutes
Discuss the book with your study group	
Participate in classes	
And so on.....	

You risk growing tired of it all, if you just read the book without distinguishing between different reading techniques and study activities. On the other hand, if you vary your syllabus reading by applying different reading techniques and study activities, your interest in the subject is all the more likely to be retained without any loss of perspective. The important thing is that you get to view your studying as a process with various types of activities where every single part contributes to your academic knowledge.

5. Note-taking techniques

For many students, it is a good exercise to write things down in their own words while working with the academic material or participating in the teaching. Many lecturers expect students to take notes. Some lecturers hand out pieces of paper which contain the main points of the teaching allowing students to, subsequently, add their own notes on these. Other lecturers write on the blackboard, expecting that what is written on the blackboard is written down by the students in one way or another.

There are several kinds of notes with varying purposes. Some notes are primarily used to save/remember important information, e.g. the notes you take down during class. Another type of notes are the notes you write when you read, which often act as a combination of thinking tools and guides to the important points of the texts. A third type of notes act as a kind of brainstorming technique which may be used to come up with new arguments, structures for or aspects of a research paper.

In the following, different kinds of notes will be discussed.

Class notes

Most students take notes during class, however, many students are not satisfied with their notes. Generally, they experience that they lack time and a general idea of which parts should be noted down and which parts should not. Furthermore, many students find it difficult to concentrate on what is being taught while trying to take useful notes. Experience has shown that quite the reverse is true after a bit of training. After a while, you will see that your note-taking will improve if you have more time on your hands and more extensive knowledge of the subject, making it possible for you to focus your attention on the teaching. First, the notes relieve your memory, which allows you to focus on understanding rather than remembering. Second, note-taking maintains your concentration and makes sure that your thoughts aren't led astray.

In other words, it requires concentration to take notes during class. You must master the art of note-taking without losing the thread of the teaching. However, concentration increases your learning ability.

Content and language in your class notes

First and foremost, focus on quality rather than quantity when you take down notes: the object is not to take down as many notes as possible, but, on the contrary, to write only things you understand – or don't understand and, therefore, should remember to examine in depth after class.

In regard to content, your notes should be short and concise – this facilitates the task immensely! Don't write the lecturer's wording down. You will also learn more by phrasing the core points of the teaching yourself. Invent your own shorthand writing, and mix the language of teaching with your own native language if this makes it easier for you. Replace long phrases with abbreviations and other symbols. Remember to be consistent in your use of "symbols". Otherwise, you may have trouble benefiting from your notes later on.

Examples of abbreviations/shorthand writing:

<i>Ex</i> or <i>x</i>	for <i>example</i>
<i>Def.</i>	for <i>definition</i>
<i>Ref.</i>	for <i>references</i>
<i>Aut.</i>	for <i>author</i>
<i>Pub.</i>	for <i>public</i>

Examples of symbols:

÷	instead of <i>not</i>
+	instead of <i>and, in addition, well</i>
⇒	instead of <i>leads to, results in</i>
=	instead of <i>equals, the same thing as, corresponding to</i>
>	instead of <i>larger than, subsequently</i>
~	instead of <i>almost the same thing as, partly corresponding to</i>

Reading notes

When you read on your own, it is a good idea to take down notes as well as comments in the margin of the book while reading. First, the notes help you structure and, therefore, understand the information in the text. Second, notes act as a sort of guide, which makes it easier to find core points at a later date.

However, notes have an adverse tendency of becoming an unintegrated and very comprehensive reproduction of what is written in the book.

Consequently, the notes more or less become a summary rather than what they are supposed to be: a guide to what you have read. In other words, be careful when it comes to writing your notes in your own wording. This is best done by putting off the note-taking until you have finished reading the section and have put the book aside.

In order to avoid writing too many notes, you should begin by considering what you want to achieve before you start taking notes. If you wish to learn something about applied economic methods of calculation, then put on your “mathematical reading glasses” and avoid taking down notes on the more socially descriptive and/or historical information. In general, avoid taking down notes of the entire book, but stick to the sections which are relevant to you here and now!

Margin notes and highlighted text are also types of reading notes – the difference being that margin notes are recorded directly into the texts, books, photocopies and the like. The intended use is for you to separate the important parts of the text from the details by means of notes in the margins and by underlining or highlighting. Use different colours and size of highlighters to highlight different types of information and different degrees of importance.

Examples:

- ~ Wavy line under words or concepts you do not understand or find are vague.
- ? Question mark against large sections which are vague/difficult to understand.
- Bold line under keywords and important concepts.
- ! Vertical line or exclamation mark in the margin against important sections.
- || Double vertical line against sections which are central to the whole text.

However, you should be aware that you will only be able to single out core points of the material that you are reading when you understand it. Consequently, wait until after you have read the chapter in its entirety before you highlight.

A disadvantage of highlighting is that it is not your own wording, and you might fool yourself into believing that you have understood the text, just because you have highlighted it. If it is large portions of the text you highlight/underline or record as being important, it is a good idea to write your own keywords or points against each section. First, this means that you get to process the text instead of just assuming the wording of the author. Second, it becomes easier to recognise and, therefore, locate certain sections. Thus, you create a general perspective of the text and facilitate the task of re-reading/revising the text.

Mind maps

Mind maps are a study-related tool. The aim is to grant a graphic image of how different concepts and different pieces of information are related to a core concept or keyword.

Like notes in general, mind maps is mainly an individually adapted tool, the primary purpose of which is to render a graphical perspective. Begin by writing down the central keyword in the middle of a blank piece of paper. Then add sub-topics by means of lines and keywords – like branches on a tree.

The rest is up to you:

- Write **on** the lines
- Add symbols or graphs
- Use a lot of colour!
- Use short concise words
- Divide the mind map into fields
- Link different fields by means of arrows

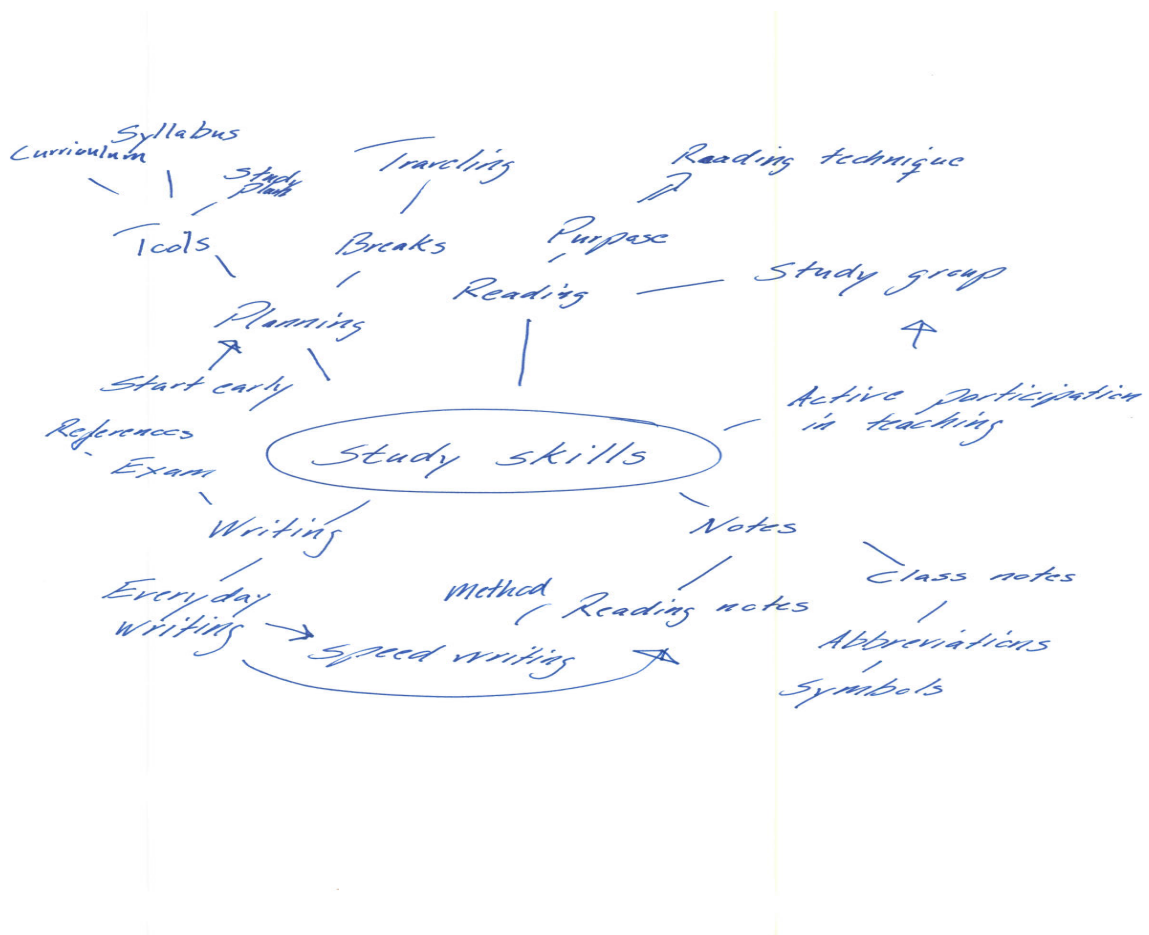
The above is only meant to act as an example. As a matter of fact, it doesn't matter where or how you place the individual keywords as long as you leave plenty of room for new keywords. You may either collect all your thoughts on a single large mind map (on A3-paper) or organise the ideas on several mind maps. You decide the rules for your mind map(s).

Finally, you will end up with a sheet of paper with a structured image of the knowledge and the thoughts you have on the given concept or keyword, i.e. a map of your knowledge.

The advantage of using mind maps is that you visualise the connections between a central keyword and associated concepts/information. Mind maps are very useful creative tools and allow you to find new connections and get an idea of the broader perspective.

You may also use mind maps as a traditional note-taking technique at lectures or when you read syllabus books. Furthermore, an increasing number of lecturers use mind maps as lecture notes – and hand them out during class.

An example of a small mind map



Be in control of your notes

Make sure that you are able to identify all of your notes at all times. Write down general information about course, subject, date, number of pages, etc. at the top of each page. Thereby, you make sure that notes from different courses are not mixed.

If you write down notes on individual sheets of paper, you are able to rearrange the notes according to their use and/or purpose. Furthermore, you may benefit from writing down notes on A4-paper since this paper format fits into ordinary ring binders, making it possible to store the notes together with other texts of A4-format, e.g. photocopies which have been handed out during class.

Use your notes again and again

Remember that notes are made to be used. They may be read again and again. You might even write down new comments (in a different colour) in the margin.

It may be convenient to make a fair copy of selected notes immediately after class and save them in a file on your computer, if the subject is particularly important or is of special interest to you (or if the teaching notes have become too mixed-up). It is a time-consuming task, but it may prove to be an effective way of beginning a research paper.

At other times, it is enough to re-read the notes a couple of times before the exam. In any case, you will discover that well-written notes are worth the effort when you are preparing for exams. When you write down notes, you revise the material both while you are taking the notes down and later on, when you read through them.

6. Requirements for essays and project reports

Requirements for research reports vary around the world. Within this area as well, the Danish educational system awards independence and critical reflective learning.

In this chapter, some of the general requirements for essays and reports are put forward. The reports we will consider in the following are those where students themselves may influence the choice of subject. The weekly assignments in Mathematics with clearly defined questions and final answers are almost identical in all countries. The requirements for essays and reports, on the other hand, vary a lot and tend to be more culturally conditioned.

As a minimum, most reports must bear evidence that students have read, understood and gained a broader perspective of the syllabus - as is the case for oral exams as well. Furthermore, it is a common requirement for reports that students must show that they are able to use core concepts and methods of the subject independently by applying them to a “piece of real life” or by putting concepts into new contexts or drawing new lines between theories.

The important thing is that the student shows that he/she is able to put forward a problem and research it in an independent manner, and that he/she is able to discuss this in an academic way, i.e. put forward independent claims and substantiate these using academic backing established on the basis of recognised methods.

Once more, there is no reward in learning the scientific texts by heart and, thereby, become able to render them elaborately. You should only mention theories or empirical material which find direct use in relation to the whole of your report.

Reports must be well documented. Sources of concepts, theories and argumentation of which you are not the author must be thoroughly referenced to enable the reader to know whether you are putting forward your own points of view or you are referencing or have been inspired by scientific texts.

Plagiarism

If you do not indicate all sources when using them, it is considered *plagiarism*. You must refer not only to the sources from which you copy tables, models or other data directly, but also to the sources that inspire your opinion or back your claims.

Take the time to familiarise yourself with the formal requirements for source references, etc. If in doubt, you should ask your teacher or supervisor or consult Student Services. The Faculty's website also provides useful information about plagiarism and how to avoid it: www.life.ku.dk/plagiarism.

At some exams, there may be requirements regarding teamwork with fellow students. For example, if a report is written by more than one student, the students must be able to indicate which sections of the paper that have been written by the individual students in order to enable individual assessment.

From the University's point of view, plagiarism is a very serious matter and it is severely punished. If you are caught using sources which have not been referenced, your exam will be suspended, and moreover you risk being expelled from the University and/or having all or some of the other exam results from the same examination period annulled.

Source referencing

When you write the main body and conclusions of your report, it is important that you make frequent use of source references. Source references act as documentation in terms of the origin of your knowledge, and they offer the readers an opportunity to test the argumentation and conclusions of your paper.

Furthermore, reports in which source referencing is frequently used present themselves as being honest. The readers are able to clearly distinguish between the author's own thoughts and analyses the author has found elsewhere.

If you make use of the same source over and over again, there is of course no need to reference this source after each sentence; however, better make one reference too many than one too few, and 2-5 source references per page is not uncommon.

Every source should be referenced – even if your source is the basic textbook of the subject. Remember to reference sources while you are writing your research paper. If you don't, you may have trouble remembering where you found the information.

Standards for source references

In the paper you have to refer to the author(s) of the works and the year in which the works were published, either in brackets or in footnotes: “(Johnson, 1999)”. If you mention the author in the text you need only cite the year of publication: “Johnson (1999) mentions...”. You need to bring the full reference in the list of references.

Source references must be as precise as possible. If you refer to a basic concept which is dealt with in the work in its entirety, then you must make a reference to the title of the work in its entirety; however, if you use a concept from a certain chapter or page, then you must indicate the chapter and/or the page number as well: “(Johnson, 1999, p. 148)”.

Source references must be unambiguous and follow one standard. When you use references, you must do so in a consistent manner.

The list of references

The list of references should solely list the works which have been referenced in the research paper. It should not comprise a long list of books you did not use, but found important in terms of the subject.

The references are listed alphabetically according to the authors' surnames. If the same author is mentioned in connection with several works, these works are listed in chronological order.

The order in which the authors are mentioned is not random. Those who are mentioned first have usually carried out more work on the book or article than the ones who are mentioned last.

There are several standards for referencing in use but you should always include the name of the authors, the title of the book or article and in the latter case the name of the journal, the publisher and the year of publishing. Different standards are available at the webpage of the International Federation of Library Associations and Institutions:
www.ifla.org/I/training/citation/citing.htm.

Quotations

Source referencing is one kind of documentation. Quoting is another kind of documentation. Quotations should always be clearly marked with quotation marks and quotations of more than two lines should be indented. If you use quotations that are not clearly marked as such, it is considered plagiarism.

Do not overdo the use of quotations. Quotations grant a specific wording a certain authority, however, if the text is filled with quotes, the analysis is weakened and the reverse effect is achieved. Quotations should not exceed ten lines.

Furthermore, it is obvious that your quotations must reflect the initial intention of the quoted. However, this is not always the case, and it is an academically objectionable practise to represent the opposing party badly by means of a manipulative use of quotations – whether intentionally or unintentionally.

The use of footnotes

In a few isolated cases, footnotes may be used to elaborate on a point made which should not be included in the main body. Such content-filled footnotes are only aimed at readers who read the project report in a very thorough manner.

Consider if each footnote should form part of the main body or whether it should be included at all. Footnotes should only be included in the text where the writer wants to give the reader important supplemental information which is impossible to incorporate in the main body without disrupting the information flow.

Footnotes should not be used as storage space for all the material for which there unfortunately was no room in the main body! Examples or definitions of various concepts should not be placed in the footnotes. They belong in the main body of text.

The use of appendixes

In appendixes should be enclosed only solely supplemental information, which may be relevant as background information or act as documentation for the reader, but is unnecessary to read in order to understand the argumentation or the conclusions. Examples are historical overviews, legislation or empirical results, or other material which might act as a supplement for the reader. But remember: never place primary information in the appendix. It should form part of the main body.

Read sample reports

In this chapter, the general expectations concerning project reports have been described. At the library, several examples of how other students have gone about writing project reports are found (also in English). You may benefit from borrowing a few of these reports and spend a little time reading them. If you are unable to find sample reports which reflect the paper you are about to write, you may ask your lecturer if he/she has copies of sample reports that you may borrow.

7. Writing techniques

In this chapter, you are offered some good advice on how to stay in control of your writing process as well as a simple and efficient technique to make the first draft of your essay or project report.

Write before you read

When you prepare to write an essay or research paper, it is a good idea to start to write on the basis of the knowledge that you already possess, instead of starting by reading material in order to add new information. You always know something about the subject in advance.

The first pages of a text are often the ones which are the most difficult to write, and you achieve a positive psychological effect by writing down your thoughts and ideas in the beginning of the process. As soon as you have written a couple of pages, the writing comes along a lot easier.

Based on your immediate knowledge of the subject, begin to write down everything you may come up with, and subsequently, use this text to choose exactly which books and chapters are relevant to your research paper. When you read a lot before you start writing, your text tends to become overly referencing, since you might feel that it would be a shame not to put all this reading into use by drawing parallels to all of the texts you have read. The result may be that the paper becomes less focused as well as boring to read.

Speed-writing

Speed-writing (also termed free-writing or non-stop-writing) is a writing technique which is used to start the writing process. The method is particularly efficient when you are about to commence writing an essay or research paper. However, speed-writing may also be applied later in the writing process, if you stop short or if you need to write something straight from the shoulder.

Speed-writing means writing anything about a specific subject or on the basis of a question, without stopping. The purpose of speed-writing is to write down your knowledge in a continuous manner without censoring the content. Write everything that pops up in your head without worrying about spelling

and typing errors. The only thing that you need to concentrate on is that the pen does not let go of the paper – or the hands let go of the keyboard. If you are writing on a PC, turn off the screen so you are unable to see the text. Do not go back and correct the written text. Instead of changing the text you have written, write something else – something new. Remember that the text is only meant to act as a draft for your own use, and no one else has to see it.

Decide in advance on a time interval, e.g. 7, 10 or 15 minutes, and keep writing until this time has passed. If nothing pops up in your head, write the headline or the last word again and again until new thoughts appear.

The advantage of speed-writing is that it gives you an opportunity to part from your self-criticism and use only your creative and productive resources. Speed-writing often brings forward new and unexpected thoughts and ideas.

It is interesting to notice that speed-writing often results in surprisingly coherent sentences and paragraphs. The ideas you have written down in connection with speed-writing are often more coherent and to the point than the ideas which are formed on the basis of for example a brainstorm. Speed-writing often produces sections you may use, almost without adding any corrections, in your draft. Furthermore, it gives your text a personal touch. Speed-writing is written in your own words and is not influenced by the formulations of the syllabus books.

If you subsequently want to work more with your speed-written text, it is important to put some structure into it. Speed-writing results in an unstructured piece of text. With this unfinished text you may:

1. consider whether you may use words or sections more or less unchanged in the final text;
2. underline and highlight important key words in the text; and/or
3. perhaps continue by doing a new speed-writing or preparing a mind map of the highlighted/underlined words/sections.

Speed-writing in connection with exams

You may also use speed-writing to test your knowledge before an exam. Based on speed-writing, you are able to establish what you already know, and you may be able to spot gaps in your knowledge that need to be filled or questions that you need to have answered.

Write on a daily basis during your studies

Remember that the more you make use of the art of writing in your daily studies, the easier it becomes for you to write essays and reports.

Writing also helps you focus on your studies. You write your way into your subject of study. Use the writing process to get a broader perspective of your own areas of interest, and the areas that need further attention.

8. Study groups

Study groups are formed when 3-6 students agree to meet on a regular basis to study. Danish students are used to participate in study groups in various connections.

For most students, it is an advantage to participate in some kind of study group – regardless of whether they are studying Natural Resources or Biotechnology, and (almost) no matter the tasks. It differs how committed the members have to be to participate in various kinds of groups. A project group is formed to create a joint product (project report or presentation) and, ultimately, every single member of the group has to be willing to take responsibility for the group's joint work. A discussion group might meet with the sole purpose of discussing texts read, and none of the group members are subsequently tied to attitudes, questions or methods which originated during the meeting of the group.

Below is some good advice on how to organise different kinds of group work. It applies to all groups that the better organised a group is, the more the group is able to accomplish. Therefore when the group is formed, take time to discuss how you expect the group to act and work. Do not assume that all group members share your expectations. You have to voice your expectations.

Group size

The ideal number of members in a group is four to five individuals. If the group is made up of only three individuals, the group becomes vulnerable in terms of illness and absences.

If the group is made up of more than five individuals, it becomes necessary to hold disciplined meetings where a chairman is elected. It may also become easier for individual group members to decline responsibility, because members of the group are able to “hide” more easily.

Location

Consider where the group should meet when you work. Too much noise and interruptions are inconvenient. Avoid canteens or cafés, where the noise level is usually high. Book a group room or find an undisturbed space at the Faculty instead.

Preparations on an individual basis

It is almost always necessary for the group members to prepare individually for joint discussions in the group. It is not enough just to show up and expect that some of the others have something to say about the theme of the meeting.

In discussion groups, it is a given that all members have read the texts or calculated the arithmetical problems; however, it may prove beneficial to make an agreement regarding distribution of work to ensure that at least one person has assumed responsibility for the review of a certain text or theme which is to be taken up for discussion. Otherwise, you may risk that everybody just sits and waits for someone else to take the initiative.

In a project group, distribution of work is a necessity, and you should end each meeting by agreeing on what each member of the group must prepare for the next meeting. It is also a good idea to choose a coordinator, chairman or whatever you choose to call the group member concerned. This group member must handle all general coordination of the work to ensure that tasks are distributed between the group members. Take turns at the role of chairman to ensure an even distribution of responsibility.

Nip unproductive conflicts in the bud

Conflicts are tiresome and often cost a lot of time unnecessarily. Many conflicts within groups are the result of annoyance caused by breaches of agreements or misunderstandings, which can be avoided. Conflicts may also arise as a consequence of the fact that several group members assume identical roles, e.g. as chairman. This may result in ongoing arguments about who is in control. By following six simple rules, you are able to prevent a long series of unproductive conflicts:

Rule no. 1: establish a joint level of ambition

One of the most frequent causes of conflicts is different levels of ambition. It is necessary to have a (more or less) joint level of ambition in order for the group to function. This is even more important if you are writing a joint research paper. And once again, you must address the subject verbally, even if it is tabooed. The result is a kind of social contract to which the members of the group may refer, if disagreement concerning the framework of the group arises at a later date.

Rule no. 2: agree on time spent

It is important to clarify how much time the group members are willing to earmark in advance. Of course this is impossible to say precisely in hours or minutes; however, if one group member is simultaneously attending several courses or is planning to travel two months during the semester, it is fairly certain that this individual is unable to earmark the same amount of time as a full-time student who does not have any other obligations. Agree on the amount of time that you are willing to invest in the group. If you are part of a project group, it is also important to establish provisional deadlines.

Rule no. 3: keep appointments

Agree in advance to keep appointments or deadlines. It may seem fairly obvious to do so, however, if things start to turn sour in the group, it might set off a chain reaction which results in the fact that the group parts in anger. Therefore, make sure that all of you comply with appointments and deadlines.

Rule no. 4: concentrate on academic matters

You spend a lot of time together in the group, so it is important that you get along well. However, you need to concentrate on academic matters, and it may therefore be a good idea to choose group members with whom you are not too close friends. If you have already established a friendship, it may be difficult to disregard this and make demands of each other's work and performance.

Rule no. 5: communicate in a proper manner

Disagreements are usually caused by failure to communicate. Express yourself as precisely as possible, especially if the discussion is developing into a conflict. Make sure that the others have understood you correctly, perhaps ask the others how and if they have understood that which you have said or written. Emphasise that you are only speaking for yourself by using expressions such as "I think..." instead of "one might think..." or "everyone is able to see that...". Furthermore, it is important to distinguish between academic disagreement and personal conflict. If a disagreement is conceived to be personal or if the discussion turns sour in any way, it may create unproductive conflicts.

Rule no. 6: make ongoing evaluations – stop conflicts before they start

Make ongoing evaluations of the group's way of functioning. What is good? What can be done better? It is the responsibility of all the group members to be aware of unsatisfactory features, and do not postpone addressing the problems until the group work has come to an end.

Academic disagreement in the group is productive

How do we distinguish between disagreement and conflict? It is obvious that personal conflicts must be avoided; however, academic disagreement is not a problem in itself. It may actually prove to be a constructive way of reaching insight and understanding. Study groups are formed with the purpose of having academic discussions and often academic or methodological disagreements result in a good discussion, hopefully leading to a new level of understanding.

Actually, many groups have an unfortunate tendency to agree too quickly, especially when focus is largely on achieving results and less on learning from the process. Remember that there is a large difference between personal conflicts and academic discussions. Even if you dislike arguments, you should be willing to engage in an academic debate. As mentioned in the chapter about active participation in teaching, it is important to ask relevant questions, see things from different perspectives and reflect.

In other words, it is important to hold on to the academic disagreements and avoid taking the sting out of the discussions. The group does not necessarily have to come to an agreement, and if the discussion dies down after five minutes, not all issues will have been thoroughly discussed.

9. Where to get help

Student Services

At Student Services you can find student advisors who are willing to help you with almost any question or concern you might have.

The student advisors are experienced students who are employed by the Faculty to advise other students about study conditions. They are able to help you with official rules relating to exams, class registration, credit, etc. as well as with study skills and more personal issues. If the student advisors are unable to answer your questions, you may rest assured that they know who will be able to answer them.

Student Services also provides support for all LIFE students working on various types of projects. If you need help concerning structure, process, planning, writing and problem formulation, this is the place to go. We do not, however, deal with the scientific contents of your project.

The Project Support is available at the Student Services office every Thursday from 9.00-15.00. You do not need to make an appointment in advance.

Contact details

STUDENT SERVICES
FACULTY OF LIFE SCIENCES
UNIVERSITY OF COPENHAGEN
Thorvaldsensvej 40
DK-1871 Frederiksberg C

Website: www.life.ku.dk/student-services

E-mail: studentservices@life.ku.dk

Phone: +45 35 33 35 33

Good advice for international students

1. Be aware of the way you are studying. Read books about study skills (see “Additional references”). Share experiences with your fellow students (and lecturers), and discuss how best to plan your study process.
2. Your physical settings are important for your ability to concentrate. Perhaps the best study location is not where you live, but e.g. the library.
3. Plan the upcoming block. Find course descriptions, syllabus and exam rules on the Faculty website (www.life.ku.dk/English/education/for_students.aspx) and draw up a provisional study plan.
4. Stay cool! And do not expect to be able to see things in the broader perspective from the beginning. The sense of chaos is natural in the beginning, and it often takes some time before things really begin to fall into place at your new university.
5. Claim responsibility for your learning process. Spend time and energy on your home work, and participate actively in class. Pose questions and approach subjects from a critical point of view.
6. Work determinedly with your reading habits. Find out how the texts of your subject are usually structured (structure, content, wording), and learn to organise your reading technique in accordance with the purpose of reading. Learn to distinguish important parts of the texts from unimportant parts.
7. Remember that you never start from scratch. You always have relevant academic knowledge you can put into use when acquiring new knowledge. It is important that you recognise your “pre-knowledge” and render it visible when you attend a new course and/or read new texts.
8. Generally speaking, Danish university reports tend to be problem oriented, analytical and critical. Remember to reference sources carefully and thoroughly.
9. Become part of a study group. Your fellow students all face similar academic problems, and dialogue is important to access information about the level and the academic challenges of the courses you attend.

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Mindmaps

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STUDENT SERVICES
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