

Learning How to Study

A Guide to University Learning



Table of Contents

Student Guide:	3
Review Material Regularly	3
Identify Exam Specifics.....	4
Organize & Integrate Resources	5
Plan Your Time	6
Study Actively.....	7
Study Groups.....	8
Tips for Recalling Content	9
Post-Exam Strategies	10
Studying Top Ten Takeaways.....	11
Practice Activity	11
Study Checklist	12

STUDENT GUIDE:

Studying for an exam should be more than just a cramming session; successful studying is an ongoing process that begins with the first day of classes and involves managing your time and learning effectively from texts, lectures, and labs. It also involves developing a foundation from which to begin your pre-exam review. This section outlines several tips and strategies that students can use to enhance their studying during university.

Review Material Regularly

Before you can begin studying for an exam, good study habits begin much earlier in the term. To effectively study, it is essential you review regularly the material from lectures, seminars and textbooks in a consistent fashion. Get into the habit of:

- **Reviewing Your Notes Daily**

Edit your class notes as soon as possible after class to fill in any gaps. Re-read/skim for comprehension. Make sure you staple/collect all related handouts/problems so that everything is organized. Review your notes before the next class.

- **Rewriting & Integrating Textbook Notes Shortly After Lecture**

As soon as you have done the textbook reading, ensure it is integrated with the lecture notes in a fashion you will understand (this could mean writing the textbook content on the backside of the lecture note, the lecture note could be filled in with more detail from the text, or a new note could also be created that combines both the textbook and lecture material).

- **Reviewing Your Notes Weekly**

At the end of each week, go through your notes for all of your classes to ensure you understand the content. Rewrite any lecture notes if they are too messy or disorganized. Organize your notes into binders or file folders. Ensure the notes are placed in sequence with other notes. Make summary notes on the important concepts and information. Look at how the material covered relates to the course as a whole.

- **Identifying When You Need Help (long before the exam)**

Get in the habit of asking questions, going to see the professor or TA or seeking out friends to help you grasp something that isn't making sense.

Identify Exam Specifics

Before you can conduct any meaningful studying, you must first define the scope of the exam. You need to determine what knowledge and skills are being evaluated. Gather as much information about the exam as you can. Although it's not appropriate to ask specifically what will be asked on the exam, there is nothing wrong with requesting or finding out the following:

- What does the course outline say about the exam and the focus of this course?
- How much is the exam worth in terms of a percentage of your final mark?
- Is this a required course you need to get into vet school or teacher's college? Is this course required to complete your program?
- What mark would you like to get in this course? What results will you need on this particular test or exam to achieve that mark?
- Which lectures, readings, assignments and problems could be part of the exam?
- Is there a greater focus on the textbook, lectures or both?
- How much of the term's content is covered by the exam (the whole term? or just since the mid-term test?)
- What type of questions will there be and how many of each? Is it mainly multiple choice or is there a mixture of questions?
- Is the exam open note or open book?
- For problem-solving classes, will formulas be provided or do they need to be memorized? Can you take in your own formula sheet to the exam?
- Are there any materials you will need to bring to the exam (e.g., calculator?)
- How much time will be available? Does the professor expect the exam to be easy to complete during the test period or a challenge?
- Are the teaching assistants or the professor going to give a review session before the exam? When is it? Where is it?
- Is there a Supported Learning Group (SLG) for this course? SLGs are study groups led by experienced senior students. Announcements will be made in your course about SLG sessions.

Organize & Integrate Resources

Previous Tests

Be sure to review any previous tests you've had in the course. Analyze errors you've made in the past, recognizing where you lost marks.

Making a Study Guide

A lot of students make study guides. Here is a brief overview of one method:

- Once you find out which lectures, readings and textbook pages will be covered by the exam, print out or gather up the related lecture and textbook notes.
- Organize these pages into piles, separated by topics. Label each of the piles with the corresponding topic title. Staple or paper-clip all papers in each pile together.
- Read through your notes and determine if they can be condensed (i.e. see what information is not needed or not covered by the exam).

Creating an Outline

An outline can be thought of as a condensed study guide. Outlines attempt to condense large amounts of information you have from all your course sources into a logical system. Some professors and textbooks provide outlines of chapters which you may find helpful. Some tips for creating outlines are:

- Focus on broad subjects, key issues and concepts.
- The goal is to put as much of the material on the front sides of just 1 or 2 pieces of paper.
- You don't need to be completely textual. You can use concept maps.
- Don't spend too long on preparing an outline. It is just one study aid.

Building a Problem Set

For problem solving courses, many students adapt the study guide approach. Your assigned problem sets are key for studying.

- Start a pile for each set of problems that covers material that might appear on the exam.
- Supplement each problem set with sample problems from your lecture notes.
- Match the problem set with its related lecture note. Next, copy sample problems (just the questions) onto blank sheets and fasten these sheets together with the problem set. This creates a large problem set by adding extra problems drawn from your lecture notes.
- Create questions based on the topic title. For every major topic covered in a particular problem set, jot down the question that asks you to explain the basics of the topic. For example: For a chemistry class you might have a problem set containing many questions that require you to draw the molecular structure of specific chemical compounds, so the question might be "Explain the general procedure for drawing a molecular structure, why this is useful and what special cases must be kept in mind." These technical questions help you see if you understand the underlying concepts, or if you have just memorized the steps.

Plan Your Time

When is the best time to study?

Everyone is different - choose a time you are most awake.

Students find the most effective time for studying to occur between when they wake up and when they eat dinner. Yet some students work very well late into the night. Choose a time that is quiet and when your brain is ready to learn.

Where should you study?

Most students work best in isolation.

Find a number of isolated study spots on or off campus and rotate through these locations when you study. Seek out those study spots so that you have choices and can change venues to prevent procrastination or avoid distractions. Studying in the dorm room or at home on your bed often just doesn't work for everyone.

How long should you study?

Generally, no more than one hour at a time without a break.

Your break needs to be only 5-10 minutes, but it's important that you take an intellectual breather during this period. Doing something completely different on your break (e.g., reading a newspaper article, sending a few emails) will help refresh your mind. Generally, 30-60 minutes is an appropriate learning period for studying before taking a break.

What is a study plan?

Dividing your workload into manageable chunks.

Divide your available time and your work load into manageable chunks. Study frequently in shorter periods of time. Pay attention to how much time you are spending on specific study tasks and stay on track with your study plan. Focus your energy on studying, not playing catch up. If you are already behind, try to prioritize, concentrating on the material most likely to appear on the exam.

Study Actively

Active studying means you have to be engaged with the content. Most students make the mistake of relying on passive review which involves reading and re-reading their notes and assignments. They assume the more times they read the content the more they will remember it. Make the extra effort to get it into your head!

Here are some suggestions for actively getting involved with your study notes, problems and exam material.

- **Review your material, explain it (without looking) in your own words and out loud (if possible) and then check to see if you are correct.**
If you can close your eyes and create an argument from scratch or stare at a blank sheet of paper and reproduce a solution without a mistake, then you have fully understood the concept.
- **Teach the material to a classmate.**
When you have to teach and explain a concept to someone else, you are actively understanding and interacting with the content. Have your classmate ask you questions for further explanation.
- **Construct a practice quiz for each chapter in your study guide.**
Say the answers out loud, not in your head. Put a mark beside challenging problems. Go back and redo those you that did not get correct.
- **Go through textbooks, lab manuals and related CDs or web sites to find sample multiple choice or other types of questions.**
Look for sample midterms and exams to also access practice questions. Different textbooks on the same subject may also have practice questions at the back of each chapter.
- **For courses with problem sets, practice solving the problems.**
Upon solving the problems, try to explain an answer for each problem out loud! If you are just regurgitating memorized solutions, you aren't prepared to handle new problems on a test. Put a mark beside those problems that gave you trouble. Review the solutions for these questions. Follow this method until you finish a round with no marked problems.

Study Groups

Studying with a group of your friends can be both a fun and rewarding study method. For effective studying, it is important that you choose your group members wisely and follow a few rules.

Study groups should:

- Not be the sole method of study & they are not for everyone.
- Be a form of 'active learning' - the strongest kind of learning.
- Not let one member of the group dominate.
- Meet no more than 2-3 times a week for no more than 60-90 minute periods.
- Establish responsibilities for each group member.
- Design rules dealing with respect for each member.
- Provide contact information for group members.
- Help you and your group members:
 - See the material from a different perspective
 - Stay motivated and commit more time to study
 - Share/compare notes and study tips
 - Engage in discussions and debates on selected topics
 - Pick up new tips and material from your peers
 - Quiz each other on factual material

Supported Learning Groups

In some first-year courses, the University of Guelph Library offers a Supported Learning Groups (SLG) Program that provides structured group study sessions. SLGs are peer-led study groups that help students navigate challenging course material and show them new ways to approach difficult course concepts.

SLG sessions provide opportunities to:

- Meet students from your class in a small group format
- Learn new ways to approach difficult course concepts
- Gain a more in-depth understanding of the course content
- Leave with something tangible to review later

Tips for Recalling Content

Prepare Flash Cards

- All courses may require you to do some memorization for items such as formulas, chemical equations, artwork, dates, authors, definitions or chronologies.
- Try using flash cards to help with memorization. Buy a stack of index cards and put the prompt on one side and the answer on the other. Create them early on in the semester, and study with the cards.
- Carry your flash cards with you to study in short, spare moments, such as when you are waiting in line or riding the bus.

Create Diagrams to Help Summarize Information

- Draw a diagram to provide a pictorial representation of the subject.
- Try a concept map with the most important idea in the centre, and then various branches showing the relationships between other ideas and their subcategories.

Use Strategies to Help Reduce Forgetting

- Test yourself as you study.
- Over-learn the material so that you can't forget it.
- Use:
 - Mnemonics (i before e except after c)
 - Acronyms (HOMES is an acronym for Great Lakes - Huron, Ontario, Michigan, Erie and Superior)
 - Acrostics (Kings Play Chess On Fairly Good Soft Velvet is an acrostic for Kingdom, Phylum, Class, Order, Family, Genus, Species, Variety)
 - Analogies (lungs = trees, pump = heart)
 - Key words linked to other information

Post-Exam Strategies

Some students simply don't think about their exams again, other than to say, "I'll do better next time." Try to make an effort to review your exams thoroughly, especially if you didn't perform as well you had wanted to. You'll need to find out why you made mistakes so you can adjust your studying and exam-writing next time.

If your instructor doesn't return your midterms or exams, email him or her (or the TA) and request to see your exam, ideally within a few days of when marks were posted. You may not be able to take notes while reviewing your exam, but instructors are usually very willing to let you read through it. Once you have the exam in front of you, try to determine why you chose an incorrect answer by asking yourself these questions:

- Did I misread the question?
- Did I make careless mistakes, such as reversing numbers?
- Did I simply not know the answer because I missed a class, didn't read the chapter, or didn't have enough time to review?
- Did I know the general concepts, but not at the appropriate level of detail?
- Did I run out of time?

These examples call for different kinds of correction strategies, rather than simply increasing the time spent studying. Examine the correction strategies below:

Error: Misreading the Question or Making Careless Errors

Correction Strategy: Slow down while writing the exam. Cover up the alternatives to ensure that you read the question stem carefully, without glancing down at the alternatives. Leave time at the end of the exam to check your answers.

Error: Not Knowing Answers Due to Missed Lectures or a Lack of Review Time

Correction Strategy: Good time management skills are the key for improving on these types of errors. Attend all lectures and ensure you have ample review time.

Error: Not Knowing Details

Correction Strategy: Incorporate weekly review sessions to give yourself more time to absorb the information. Use practice exams or explain concepts aloud to your study partner to ensure mastery of the important details.

Error: Running Out of Time

Correction Strategy: You may need to study the material in more depth so that the answers come more quickly as you are writing the exam. If anxiety gets in the way of your efficient use of time, contact the Stress Management and High Performance Clinic or Counselling Services.

STUDYING TOP TEN TAKEAWAYS

1. Review your notes on a regular basis, combine your textbook notes and lecture notes, and identify what you need help with - well before the exam!
2. Identify as many details about the exam as you can: how much it's worth? how long is it? what topics are included? what format is it?
3. Make a study guide! Print or gather up lecture notes, organize into topic piles, label the piles & possibly condense your notes again by topic.
4. In problem-solving courses, gather up all the problems from your lecture notes, textbook & labs. Copy sample questions onto blank sheets & practice solving the problems on your own.
5. Make an outline of the course as a great study tool. Focus on broad subjects and key issues so that everything fits on 1-2 pages.
6. Find a good time & place to study that is free of distractions. Break up your studying into 30-60 minute chunks with 5-10 minute breaks in between.
7. When you study, don't just read your notes again and again. Instead, explain the material out loud, teach the material to a friend, do a practice quiz, and solve problems.
8. Join or create a study group for an exam. Guelph has a Supported Learning Group (SLG) for some first year courses – check them out!
9. To help you study, draw diagrams and concept maps to visually represent the content and show relationships.
10. Visit your professor after the exam has been marked. Ask to view the exam to see where you made mistakes and correct them the next time.

PRACTICE ACTIVITY

This activity involves studying for a quiz found in the subsequent Exam section. The activity will give you the opportunity to practise the studying strategies found in the student guide.

The quiz details are:

- Format: Multiple Choice
- Number of Questions: 10
- Time Allowed: 7 Minutes
- Content Covered: Psychology course content from both the Textbook Reading and the Lecture (this material was presented in the Practice Activities in the Textbooks section and the Lectures section).

Instructions:

Using any notes that you created from the previous practice activities, along with the studying strategies presented in this section, review the psychology course content. The sample textbook highlighting, textbook notes, and lecture notes have been provided as a secondary resource. As you prepare for the quiz, use the Study Checklist below to help you keep track of your studying strategies.

Study Checklist

The Student Guide presented many strategies that can help students with studying. As you study for the quiz in the 'exam' section, use the checklist below to check off strategies that you have already tried. This will identify those strategies that you might still like to practise.

- Have you identified the quiz specifics (format of questions, time allowed, content to be tested)?
- Have you organized your textbook notes and lecture notes (sequenced, stapled, in piles or folders)?
- Have you integrated / cross-referenced your textbook notes with your lecture notes?
- Have you tried to draw diagrams or concept maps to explain difficult concepts?
- Have you determined if there is content that you need more help understanding?
- Have you tried to explain the content from your notes in your own words and out loud if possible?
- Have you practised solving the problem-type questions?
- Have you found sample questions (from other textbooks or websites) that could be asked on the quiz?
- Have you tried making flash cards or using mnemonics, acronyms, analogies, etc. to recall content?
- Have you tried to teach someone else the material that you are studying?
- Have you constructed a practice quiz for the content that will be studied?
- Have you determined when is your best time of day to study?
- Have you determined a good location for successful studying?
- Have you tried to review your textbook and lecture notes regularly?