



# How to Study

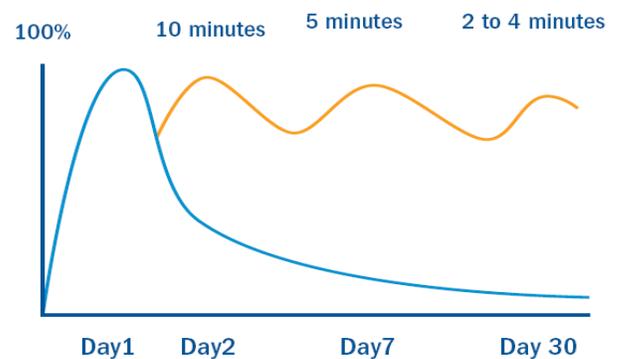
Good study habits are important to develop because university requires a lot of independent learning, which means students need to study and learn on their own. Reviewing material frequently will increase familiarity with what you are learning, so it is important to know how much time you need to plan to study.

## Rule of Thumb

- Students need one to three hours of review for every hour of lecture time. This can vary depending on the difficulty of the material and the student's familiarity with the topic.
- For example, if you spend three hours a week in lecture, you need to spend a minimum of three hours outside of class reviewing the material.

## The Forgetting Curve

- The Forgetting Curve shows that without review, up to 60 per cent of material learned in a lecture is forgotten after 24 hours.
- Within a week, this number can increase to 80 per cent, and after a month, nearly all the material is forgotten.
- With 10 minutes of review (per hour of lecture) in the initial 24 hours after attending lecture, the information can be retained.
- After a week, reviewing for five minutes per hour of lecture time is sufficient.
- A month later, only around two to four minutes per hour of lecture is needed to recall the information.
- The Forgetting Curve is based on how we retain and forget information learned in a one-hour lecture.
- Keep in mind the Forgetting Curve is based on understanding 100 per cent of the lecture material. You may need longer study periods to clarify, and you may need to practice difficult concepts.



Counselling Services, Study Skills Program,  
University of Waterloo

## Plan Your Study Time

- Everyone has a best time to study. This might be in the morning, early afternoon or after dinner. Choose the time of day you feel most awake and able to focus. Pick a good environment that is isolated and quiet, either on campus or off. Studying at home is only good if you do not get distracted.
- Do not study for more than two hours in one sitting before taking a break. Make sure to do something unrelated to studying for five to ten minutes to give your mind a break.

## Active Studying

Reading over your notes is not the only way to study. In fact, it may not be the best way to retain information. Active studying requires being engaged with the content. For example:

- Do a practice quiz and re-do any answers you did not get correct the first time.
- Join a study group (see reverse for more information).
- Try the practice problems from your textbook.

# Study Tools

## Strategies to Help You Prepare for Tests and Exams

### Summary notes

- Put your notes in your own words instead of copying exactly what is said by the professor. This helps you rephrase ideas, which deepens your understanding of the concept. The SQ4R method (survey, question, read, record, recite and review) is a common note taking strategy. For more information, use the Student Learning Centre's tip sheet about the SQ4R method.

### Flash cards

- These are best used to memorize facts and definitions. They are convenient, easy to make and a helpful tool to quiz yourself. Put a key term or question on one side and the definition or answer on the back. When studying (by yourself or with a partner), look at the question side, say the answer aloud, and then flip it over to make sure you are right.
- You can also create free online flash cards using such applications as Quizlet.

### Concept maps

Concept maps are helpful for visualizing connections between different ideas. They can be arranged in multiple ways: Web: Put the main topic in the center of your page, and add branches that connect it to other parts of the lesson.

- Tree: Arrange the items in a hierarchy with the main idea at the top and branches extending downward in order of importance, with the smallest categories at the bottom.
- Flow chart: Organize each idea with an arrow leading to the next one, representing a system or process.

### Mnemonics

These can help you remember information when a subject only requires memorization.

- An acronym is a word using the first letter of each word, e.g. HOMES to remember the Great Lakes (Huron, Ontario, Michigan, Erie and Superior).
- An acrostic is a set of letters, taken in order, to form a word or phrase. This is best used when you need to remember information in a particular order, e.g. for the directions of the compass, going clockwise: Never Eat Sour Watermelon (north, east, south and west).

### Study groups

- One of the best ways to learn is through discussion. When you teach other people, you can remember things more easily and dive deeper into a concept. Other students might give you a new perspective on a topic. The Student Learning Centre offers Peer Assisted Study Sessions (PASS) to help with challenging courses. PASS is facilitated by upper-year students who have already taken the course. The PASS leader attends lectures alongside students and plans weekly study sessions for students to discuss concepts, practice problems and review material.

### Student Learning Centre

Call: 905.721.8668 ext. 6578  
Email: [studentlearning@ontariotechu.ca](mailto:studentlearning@ontariotechu.ca)  
Website: [ontariotechu.ca/studentlearning](http://ontariotechu.ca/studentlearning)

Downtown Oshawa Location: 61 Charles St.  
North Oshawa Location: Student Life Building

