

# Study Tips

by Dr. Heather Coughlin

It is good to have a plan on how to study for any given course. The following are suggestions to help you develop such a plan. Many come from observations of students who have successfully passed my courses. Others stem from conversations I've had with and suggestions I have made to struggling students. Each of those struggling students who honestly put in effort to implementing my suggestions passed the courses they were in.

The following lists include more suggestions than one should implement on a first try. Pick one or two from each section to focus on. Be honest with yourself about your study habits and use strategies which closely match your approach to learning. Also be honest with yourself about your perceived level of effort. A word of warning: those who do not work/study for this class will most likely not pass. You need to **put in time outside of class**; for it is outside of class where most of your learning will occur. In-class time is time for exposure to material and time for you to get your questions answered and clarified—this means that you must be active and ask questions.

Two final notes: (1) the following suggestions are broken into 3 main areas, however, many suggestions will overlap areas; (2) the suggestions in bold are the ones I make most often to struggling students.

## **Be responsible for your own learning.**

### **Before Each Class/ In Each Class Period**

- Pre-read the section(s) covered—assigned. If you are assigned to read material before a class period, actually read the material.
- Pre-read the section(s) covered—not assigned. Take 5 minutes before class (even if it's right before the class starts) to skim the section(s). You will thus have a preview of the lecture, and will have at least seen the words/concepts once before lecture.
- Be awake and attentive during class. Turn off distracting devices such as cell-phones and MP3 players. In my classes, attendance is not taken; if you'd rather read the newspaper, I don't want you attending the class that day. If you need to bring a snack or a beverage, do so in a manner which will not disrupt the other students in the course (e.g. no smelly food or containers which open loudly).
- Take notes. I assume you are taking more than one class this semester. It is unlikely that anyone can remember most of what was covered in a class period with everything else that happens in a day.
- Reread previous day's notes before class.
- Examine your attitude for the day and/or for the class. If you are upbeat and happy, you are more likely to be attentive and open to absorbing material presented in class. If you are stressed or have negative feelings then you might be less attentive and less open to the material presented. If you are in the latter situation, be honest about it and try to take more detailed notes which you can review in-depth later. Or compare your notes with someone else's (not the instructor's).

## After Class/ Homework

- Read your notes. (Each day, or at least before attempting a homework assignment.)
- Read the relevant sections of the book. Do not expect the lectures to cover every type of example or every nuance of a concept you must master. In a math course, reading a text is akin to copying the text.
- **Comprehensive Concept List (CCL):** Make a list which summarizes the definitions, theorems, main concepts from the course. You may even include examples (very few should be included) of types of problems (with clear, correct solutions) you struggle with. This list should be very concise—about two sides of a page or less per 5 weeks of class.
- Start homework early, so that you can have your questions answered. If possible, have one class period is between when you start the assignment and when the assignment is due. This way you can ask questions in class.
- Before writing out a homework assignment:
  - skim the assigned questions. This will give you an idea of what to review.
  - review your notes, review the relevant book sections.
  - contribute to a CCL, and then review the entire list.
  - attempt non-assigned problems. As stated in the syllabus, the assigned problems constitute a bare minimum of what you should be attempting/contemplating. Many books will have the answers to some questions in the back, work on those.
  - write a rough draft. This way you can be messy.
- While writing a final version of a homework assignment:
  - **close your notes and leave the book open to the questions only.** This will make the homework into mini practice quizzes.
  - **when stuck, wait 1 full minute before referring to notes/book for help.** Spend this minute trying different things, talk out the problem.
  - make it neat. This way you can study from it.
- **Use/attend office hours.** Ask questions.
- After getting a homework assignment back: **correct your mistakes.** This will be of the utmost importance when studying for exams.

## Studying For a Quiz or Exam

- Reread previous exams/ quizzes/ homework. Focus on problems which were difficult for you.
- Make a **Comprehensive Concept List (CCL)** (see above).
- Read your CCL immediately before a quiz or exam—mimicking how you attempted your homework.
- Start studying (even if it's just making a CCL) at least 5 days before any exam, and have at least one class period between the start of your studying and the quiz/exam for you to ask questions in class.
- Focus on problems/concepts which caused you to struggle.
- Do review/practice questions. Warning: If you are given a review, compare the topics covered in the review with your CCL. Make up your own problems for any concepts not covered on the review.