**PPRRR: Preview, Participate, Read, Recall, Review**  
A strategic and systematic approach to reading in Natural Sciences courses

**Preview**  
Take some time before each class – the night before, or morning of – to preview the day’s lecture material. You might be surprised how much 10 minutes of previewing will dramatically affect your level of understanding during lecture.

- Look over sections of the text to be covered in the next lecture. Read the introduction, sub-headings, words in bold-faced type, first sentences of each paragraph, diagrams, charts, and conclusion or summary.
- After previewing, ask yourself: What is this mainly about? What do I expect to be the main points brought up in lecture?
- If time allows, look over the previous lecture’s notes. You can do this while waiting for class to start.

**Participate in class**  
Participate during lecture by actively listening and taking notes. Consider this time to be a time for learning – not just a time for recording notes that will be studied later.

- Carefully listen and take notes on what the prof says, not just what he/she writes down.
- Leave space between topics or leave the opposing page blank to add notes from the textbook and discussion sessions.
- Try not to be frustrated or resigned if you don’t understand what’s being presented. Do your best to stay with the lecture, but when you get lost, shake it off and regain your focus.

**Read**  
After each class, and as soon as possible (at most, within 24 hours), review the lecture notes and read sections of the textbook that were covered in the recent lecture.

- After class, review lecture notes and read sections of the textbook that were covered in the recent lecture.
- Read only one small section at a time, in an active mode. Ask yourself at the end of each reading, “What was that about?” or “What new information did that give me?”
- Follow each section with a recall exercise.

**Recall**  
Immediately after reading each small section of the text, practice recalling that information. Research shows that we forget about 40-50% of what we read within about 15 minutes unless we take measures to recall it immediately.

- Add information from the text to your lecture notes to fill in gaps from lecture, clarify definitions & concepts, and elaborate on points brought up in class. Add diagrams, charts, and figures from text to your notes when appropriate. Use different colored pens for lecture and text notes.
- Keep an ongoing collection of flash cards or a list of key terms and their definitions and add to it immediately after readings.
- Highlight main concepts and key terms in your text.

**Review**  
Set aside time each week to review and summarize the course material you’ve been reading and notes you’ve been taking.

- Review your lecture/text notes, flashcards, lists, charts, diagrams, and problem sets.
- Reorganize the material so that it makes sense to you.
- Talk over concepts with your study partners. Ask questions, but also state your interpretation of the material. Listen to their descriptions to see how their details differ from yours.
- Synthesize material from different chapters before the exam by making concept maps, charts, and creating difficult test questions.
- Visit your TA/professor’s office hours to clear up questions.