

TIPS ON READING ASSIGNMENTS FOR GEOL1520

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Before you get worried about reading assignments with homework every week or so and papers and reviews every month or so, let me explain the thought process behind the reading. 1) I want to be able to present the most interesting aspects of each topic in class, and will rely on you gaining some vocabulary and definitions through the reading. 2) If you don't understand what I'm saying in class, I want you to know where to look. 3) When you do your homework and paper assignments, you will know where to find things, and 4) you will have an organized study guide for later!

Key Words: Ocean Circulation, Climate, Reading.

1. Getting Help!

I am usually available by email. You can make an appointment other times. Just check my calendar at <http://fox-kemper.com/contact> and suggest a time that works for you.

2. Basics

You may notice that the reading assignments follow what we will be talking about in class. Thus, I expect you to do a little skimming of the chapters *before the due date*, so that you can follow along in class. I will also be providing notes that recapitulate the most important equations, results, and tools we cover in class. These notes will be a helpful starting place for your theory and methods sections.

You may also find Ruben (2016) helpful and/or amusing, which opens with the sentence, "Nothing makes you feel stupid quite like reading a scientific journal article."

3. Skim Reading

Many of you are experienced at reading scientific material, but it is always nice to revisit. Good scientific writing (like the kind in the readings I've assigned and the kind you will be writing and reviewing) is laid out in a very formulaic way, so you are able to quickly glean the content without a linear reading from beginning to end. You probably all have your own techniques by now, but here's how I do it.

3.1. Scientific Book Reading

1. Read the book title.
2. If I don't understand the book title, read the preface or other introductory materials to figure it out.
3. Read the chapter titles.
4. If I don't understand the chapter titles, read the first and last couple of paragraphs in each chapter to figure it out.
5. Read the section titles.
6. If I don't understand the section titles, read the first and last couple of paragraphs in each section to figure it out.
7. Find the important figures, graphics, definitions, theorems, lemmas, or boxed sets of equations and read their captions.
8. If I don't understand what these indicate, find the point in the text where they are referenced and read those paragraphs.
9. Read the key concepts outline at the front and back of each chapter if there is one.
10. If I don't understand the key concept listing, find the paragraphs where I can figure it out.
11. Find additional important language and terms being introduced.
12. In all of the above, there will be keywords offset in bold, or repeated technical terms that are unfamiliar. Skim backward and find the first instance they are used (where, if the writer is any good, they will be clearly defined).
13. Read the most important derivations or paragraphs from beginning to end.
14. Read the most important sections from beginning to end.
15. Read the whole chapter from beginning to end.

Only when I really need to understand the material do I make it to step 15 I usually have done step 4 before I even buy the book. With an online assignment, you don't have this advantage, but you can at least open up the files in the assignment. Before class, I would expect you to do up to step 10. I expect you to have reached step 12 before you begin the homework assignment. I would expect you to get to step 14 either while doing the homework or while writing or revising your paper. I do not expect you to reach step 15 at all, unless of course you really find it interesting or are reviewing for the exam.

3.2. Scientific Article Reading

Similarly, when reading a scientific paper, you should (in descending order):

1. Read the title and author list.
2. If I don't understand the title, read the abstract and keywords (if any) to figure it out.
3. Read the section titles
4. If I don't understand the section titles, read the first and last couple of paragraphs in each section to figure it out.
5. Find the important figures, graphics, definitions, theorems, lemmas, or boxed sets of equations and read their captions.
6. If I don't understand what these indicate, find the point in the text where they are referenced and read those paragraphs.
7. Find additional important language and terms being introduced.
8. In all of the above, there will be repeated technical terms that are unfamiliar. Skim backward and find the first instance they are used (where, if the writer is any good, they will be clearly defined).
9. Read the most important derivations or paragraphs from beginning to end.
10. Read the most important sections from beginning to end.

11. Read the whole article from beginning to end.

Usually, you can get to 5 within a few minutes, and decide if it's worth the effort to go further. This is how you can rapidly use google scholar to find references to strengthen your arguments!

4. An Important Lesson

For those of you keeping track, you'll note that this reading method has a lot to do with the way I suggest you organize writing your papers. If you write like that, others will be able to read like this!

REFERENCES

Ruben, A.: 2016, How to read a scientific paper. *Science*.

URL <http://www.sciencemag.org/careers/2016/01/how-read-scientific-paper>