

Geology of Western Canada and the National and Provincial Parks

Term Paper Guidelines

The Term Paper is **worth 20% of your course mark, and is due Thursday, November 15, by the end of class (1350).**

The subject can be anything that is directly relevant to this course. You could consider, for example, a topic that deals with the geology of some particular area or geological formation, some aspect of some particular fossil group (which could be dinosaurs or any other, for that matter), or the geology of a specific oil or gas field, or some aspect of mass movement (landslides and such). Your example or case history must be from Western Canada.

Your paper should be written at a level appropriate to a second year science course, and comprehensible to a reader with an introductory course background. That is, if you were to read it as an oral presentation, people should not be lost, nor insulted by the paper being "dumbed down" too much either.

In structure it should conform to the following outline:

i. Abstract - a brief statement of what the paper is about and what the principal findings are (see any of your references for a good idea of how to do this). This will be the first and separate page. Although I stress the importance of citations, one does not normally use citations in the abstract.

ii. Body of Paper - This will be **4 or 5 pages, double-spaced except as noted**, with the guts of the paper. You must use a 10 or 12 point font, such as Times New Roman or Courier New, and the margins should be 1" all around (top, bottom, and sides). This count does NOT include any maps, diagrams, or stratigraphic charts you may include (credit your sources here as with textual material), but don't get carried away with this stuff. You may have an Introduction (maximum one paragraph - don't push it) and Conclusions (also very concise, and do not start it with some phrase like "And so in conclusion we see that such-and-such is a very important/fascinating blah-blah-blah"). In fact, you should avoid phrases such as "we see" in all circumstances. The personalized, folksy touch is generally out of place in a scientific paper, although it may be appropriate

(not all would agree on this point) to include some personal observations such as "I believe so-and-so's hypothesis to be the more reasonable, in light of the data".

As common stylistic points to note, it is preferable to use the word "approximately" rather than "about", and one should also avoid the use of "actual" or "real" to modify such words as "rocks", "outcrops", "fossils", "data", and so on. If these things are not real or actual, then why are you including them? Also avoid the term "in depth" to refer to your paper; it's too brief. Don't refer to the "overall geology"; generally, just "geology" will do, or perhaps "regional geology" or "geological setting" would be appropriate. When referring to what other authors have written, use the past tense, e.g. "Smith (1982) reported that.....".

Under no circumstances use the phrase "is comprised of". This is improper word usage! Your choices are **either** "is composed of" **or** "comprises". For example, you could say that "the Nonsuch Formation is composed of six limestone beds", or that "the Nonsuch Formation comprises six limestone beds".

NEVER use modifiers such as "ever-changing", "ever-growing", "ever-evolving" or "ever-whatevertheheck"; this is sloppy, lazy writing that sounds like an attempt to make things sound more important or dramatic or grandiose than they are. It is a dreadful, throwaway construction. As well, try to avoid using the word "unique" unless what you are dealing with is truly and extraordinarily "unique". At some level of investigation just about anything is, and it generally reads like a lame attempt to make your subject sound more important and therefore worthy of study. The fact you find it interesting enough to investigate and write about is reason enough, as far as I'm concerned.

Genus and species names are always set apart from the rest of the text, either by italicizing or underlining the words, and genus names start with an upper case letter, regardless of location within a sentence. So, you might refer to *Tyrannosaurus rex*, or you could instead refer to Tyrannosaurus rex. Genus and species names are not prefaced by the word "the", and so you would not say, for example, that "the *Tyrannosaurus rex* is regarded by some paleontologists as having been a scavenger".

I should not have to say this, but past experience tells me

I need to: all units should be metric/SI, rather than English. In many cases, your sources will have used English units, so you will need to make the conversion. Should you wish to include both the metric units, plus English equivalent units, you should give the metric first, then the English in parentheses, e.g. "10 m (33 ft)".

You should never start a sentence with a numeral, but should write out the number; thus "6 strata comprise the reservoir" is incorrect, whereas "Six strata comprise the reservoir" is correct. Speaking of the word "whereas", which you will see in the preceding sentence, too often people will use the word "while" in such a situation. The word "while" has a temporal connotation, i.e. implies that something was happening while (at the same time as) something else was. When you wish to get across the idea of but/however/by way of contrast, "whereas" is preferred.

A consistent problem I have noted is the past tense of the verb "lead" (pronounced "leed"). The past tense of this verb is "led" (pronounced just the way it looks), not "lead" (pronounced "led"), which is element 82 in the Periodic Table.

Also note that the possessive form of "it", "its", has no apostrophe (e.g. "its own"); "it's" is a contraction of "it is".

iii. References Cited - This will also be a separate page, and will have **at least 4 references** that you have cited/referred directly to, in the body of the paper. Any reference you have cited in the text must appear in the References list, and anything in this list must be cited somewhere in the paper. This being a scientific paper, you do not use footnotes to acknowledge your sources. After some relevant point or package of information, you enclose the author's last name [and only last name - NEITHER first names NOR initials appear within the body of the paper] in parentheses, followed by a comma and date of publication [e.g. this set of guidelines would be (Clark, 2005)]. For papers with two authors, the style would be (Smith and Jones, 1982), and if three or more authors, (Smith et al., 1982), or (Smith *et al.*, 1982); note that "et al" is underlined or italicized, being a foreign language. If an entire paragraph can be attributed to one source, you do not cite the author(s) after each sentence, but might introduce the paragraph with something like "According to Clark (2004), this dinosaur/oil field/landslide blah-blah-blah". Given the brevity of the paper,

I would discourage the use of direct quotes. If you do use a quotation, you must include the specific page in your citation [e.g. (Jones, 1982, p. 365)]. Finally, the citation comes before the period in the sentence which it supports, rather than after the period and before the next sentence, as an orphan.

If a point is supported by more than one reference, list those references in order with the oldest one first, rather than alphabetically by author, and the references separated by a semicolon, e.g. (Jones, 1982; Clark, 2004).

The References or References Cited section of the references you use should give you an idea of how to list them, but individual entries will generally conform to the following format (**note the use of a hanging indent; for this paper, use single space within references, and place a blank line between entries to separate them clearly**):

Last name, initials [and ONLY initials - the name, such as "Jack" or "Jill", is not given in full, only the "J."], year of publication. Title of paper. Name of journal, volume, number, page numbers [page range of entire paper, not just the pages you used].

Note that the journal title should be written out in full, so there is no possibility of misunderstanding. Thus one would write "Canadian Journal of Earth Sciences", not "Can. Jour. Earth Sci." If it is a book, a conventional citation format might appear as follows:

Last name, initials, year of publication. Title of book. Publisher, place of publication, total number of pages [e.g. "236 p."].

Note that the title of the paper or book is **NOT** put in quotation marks, underlined, or italicized, and only the first letter of the first word in the title, plus proper nouns, is upper case. For multiple authors, all of their names are done with last name, then initials, as follows:

Smith, B.S., and Clark, F.E., 1999. Yada yada.

or

Smith, B.S., Clark, F.E., and Watson, E.G., 1999. Yada yada.

A few variations are possible, of course, as you will see if you compare different journals. For example, the Canadian Journal of Earth Sciences omits the comma separating authors from the year of publication, only gives the volume but not the number for journals (in the form of volume in bold font, followed by a colon) and then the page range with no "p/pp" prefix - the fact it is the page range is implied. If it is a non-journal source, they do not bother with the total number of pages at all, and will only give a page range if it is one of several contributions within whatever that non-journal source happens to be (if these instructions aren't sufficiently clear, check their guidelines, available on the web at http://instruct.uwo.ca/earth-sci/089g/cjes_instruct_e.pdf. You may use their format rather than the one I suggest; this is the only alternate format that is acceptable.

In the case of multiple papers by multiple authors with a common senior (listed first) author, the papers are listed alphabetically by second author, NOT chronologically, thus Smith, Brown, and Clark, 1993 would be listed before Smith, Clark, and Brown, 1990.

If you happen to have more than one paper from the same year by a single author or identical group of authors, then the first published in that year is listed first, and designated 1999a, for example, and the later one would be 1999b. The "a" and "b" suffixes must be included in citations within the body of your paper.

If you have something else, see what your references do, or ask me. Whatever you do, be internally consistent! You should note, by the way, that the individual entries in this list are **NOT** numbered, and they are listed alphabetically by author's or senior (i.e. first if more than one author) author's name. For multiple papers by the same author(s), the earliest published is listed first. Papers by a single author are listed before papers wherein that same author is the senior author.

References cannot be web sites or any such non-refereed material; they must be published papers or non-text books. There is **one (AND ONLY ONE) significant exception** to this rule as far as this paper is concerned. The Geological Atlas of the Western Canada Sedimentary Basin is an indispensable tool for research, but is enormous and weighs a tonne! It is available to read on-

line, and the web site is www.ags.gov.ab.ca/publications/ATLAS_WWW/ATLAS.shtml. You will also find at that web site [yada/ATLAS_WWW/CITATION.shtml] the recommended citation format both for the entire book, which you probably should not use unless you have indeed referred to all chapters, and individual chapter(s), of which you may end up using one or more. Not only will the individual chapters give you the big picture for any particular period, they will also have useful references at the end of each chapter, which may help you in your search for references, depending on your topic. You should notice that the Atlas' suggestion as to how to cite it places the year in parentheses, and follows that with a colon, of course neither of which you will do in your "References Cited" list, and also does not show a hanging indent. I refer you to their section on citation primarily to show you what information you need.

The question of using figures from your references surfaces as well. You should number the figures sequentially as they appear in your paper, starting with 1, and after the caption for each figure, credit the source (e.g. "After" or "From Clark, 2005, Fig. 6.>").

What do we mean by "non-text"? There are of course conventional text books such as "Understanding Earth" by Press and Siever, but in the context of this course, the books by Mussieux and Nelson, Gadd, and Hitchon are also texts, and my course notes and what I say in class are also out of bounds [not that you would consider them to be reliable information anyway!]

AN IMPORTANT REQUIREMENT/DEADLINE

To assist you in completing this paper on time, you must submit a brief outline (half-page maximum) of what you will be covering, and list at least three references already selected or discovered. This **outline is due by the end of class (1350), Thursday, October 25**. I'll check it and get it back to you as quickly as possible so that you may proceed with your paper, assuming the topic is acceptable. If you are anxious to get going and get this sucker out of the way, get your outline in to me well before then. Avoid the rush.

MARKING SCHEME

The content of your paper will be scored out of 10, your style/flow will be scored out of 5, and your format/consistency will be scored out of 5. Will my assessment be somewhat subjective? Inevitably, if perhaps unfortunately, it will.

DEDUCTIONS

I know this may bother some of you, but there will be deductions for the following infractions (all fields of endeavour have rules that must be adhered to, and there are expectations):

i. Late Submissions - I will deduct 1 mark for each 24 hours, or portion thereof, that your paper is late (it is late if I don't have a paper copy in my hands).

ii. Outline - I will deduct 1 mark if your Outline is late, 2 marks if you don't bother to submit one at all.

iii. References - There will be 1 mark deducted if any reference cited in the text isn't in your list, or anything in your list is not cited.

iv. Length - There will be 1 mark deducted if there are less than 4 or more than 5 pages to the body of the paper.

Dr. Clark, September 17, 2012