Term Research Paper – Due Friday April 10 (note new deadline)

The Secretary of Energy is putting together an energy and environment task force. He wants input for new policy decisions and wants honest and scientific briefs on various topics. You have been asked to write a five page brief on a selected topic. You are asked to be concise and give enough information for task force members to digest the information and follow up with more detailed references.

If you do not send me a request (a 3 sentence proposal) for a special topic (with times you can meet), you will be assigned a topic (at random) by email (your colorado.edu account) over the weekend.

20% of your grade – take this one seriously

Term Research Paper (2)

The topic must be researched and then certain questions answered in detail with quantitative analysis. The paper must include at least two calculations (possibly order of magnitude) that you can draw conclusions or confirmations from. The calculation details should be included in an appendix and only the results stated in the main text. All references must be included and all written work in the paper must be your own or properly cited. Any example of plagiarism will result in a failing score (or worse).

The papers are to be no longer than 5 typed pages long (12 point font, double spaced). All references, possible figures and tables, and the Appendix with calculation details should be included at the end and are not counted as part of the 5 pages. The paper should also have a one page title page that includes your name, title of the paper, and a brief one paragraph abstract for the paper. Again, this does not count as one of the 5 pages.

“Communication*”
Student-Teacher “Face-Time” (NOT Required*)

(~60 students)(~10 min/student)(1 hr/60 min) ~ 10 hrs

Send email to me (stephen.wagner@colorado.edu) with times you’re free Monday-Friday (March 16-20) & I’ll pick the earliest time available (let me know if you want > 10 minutes)

Get ALL your grading back
Ask about your mid-term grade (it’s probably better than you think)
Ask about a CAPA or exam problem
Lodge complaints/constructive criticism about the course

Talk about your research paper topic. *An appointment_is_required if there’s a special topic you want to do your research paper on. * Zoom, Skype, regular phone calls available. Let me know which option you want

RESEARCH PAPER:

First introduced in Lecture 24 (2 lectures ago + exam & 2 missing “what kind of university are we today” lectures) – will pull together notes from all lectures, answers to questions, etc & put them off course page as a constantly updating (check!) reference

Many of you have identical topics. If you know someone working on the same topic, by all means share (good) references & talk about it but don’t hand in almost identical papers (easy to tell)

A minimum of 5 independent references are required with at least three not from the internet. References should be such that it is easy for me (or someone else) to look up the original information. Wikipedia can be a starting point, but should not be used as a reference.

Working on a computer (who isn’t)? - BACK UP YOUR WORK!
RESEARCH PAPER – ANSWERS TO QUESTIONS:
Can it be over 5 pages? – We won’t count it against you if it’s slightly over 5 pages. But if it reaches 6 pages (of double spaced text) it better be jam-packed with facts necessary to your case, or we will (the form of this paper is a “brief”).

Text as reference? – Try not to (ours or any other text). We want you to locate “primary source” material. But if you have to, you can (as a 6th reference).

Complete coverage of assigned question? - Many of the topics have more than one part. You don’t have to completely cover all of the parts – you many feel some of them are much more important – but they’re generally there for a reason.

It doesn’t matter where you got your reference from (as long as all 5 not from Wikipedia page) – It’s the quality that matters (and for 3 or more, where THEY were published).


The paper isn’t intended as a book report where one summarizes what someone else has written. Rather it should be a research project where you compare information from differing sources, do some thinking and analysis of your own, and come to conclusions based on what you have found (as opposed to a “gut feeling”). It’s important the paper reflects your effort & professionalism. Significant errors in the text will result in a lower grade.

Many of the topics seem to have “inconsistencies” (i.e., Yucca Mountain). Not a trap – things change fast in this field. Should be obvious from your research, but be sure to comment on them.

Do I want the papers typed? Yes, see the instructions on the course web page

Do I require the 2 calculations in the appendix be typed? NO. Many equation-setting programs are a real pain. You can print them neatly on one page of paper.

The red paragraph on page 6 of instructions is an example of the same reference being used as a published and as a web-only ref. The [number] correlates the place it is cited in the text with its location in the bibliography (or use [Zweibel 2007] both places).

MLA, APA, Chicago? Don’t care, as long as it includes the information I’m asking for.

Examples of Appendices in text
Term Paper (6)

Submit the papers to me by email. Your email subject line MUST be:
"My ENVS/PHYS 3070 Research Paper Submission"
Calculations (only) May be in a separate pdf file (in the same email).

-1 point (out of 20) for each day late (paper not submitted by 5:00 PM MDT Friday April 10)

Only pdfs, please. If calculations not typed, take photo of it & covert to pdf. MAKE SURE
equations are legible in pdf (take a better photo if not) – will lose points if TAs or I can’t read.

Web reference or published reference? We don’t care where you read it or how you got it. What we care about is how you reference it in the Bibliography. Say you want to use
“The Grand Solar Plan” (try to do better). If you reference it as [1], it is a web reference. If you reference it as [2], it is a published reference (of which you need at least 3).

Bibliography


Approximate Rubric for Research Paper

Form of paper observed (a brief, with a point, not just a string of facts)

General quality of paper

At least five non-textbook references. Three published (non-text, non-web-only) references

General quality of references

Two calculations, in appendix (level of good CAPA question)

Calculations used (& relevant) in text

Paper not significantly/wildly too long or too short. (Aim is 5 double spaced, reasonably margined, pages of TEXT. Figures, graphs, etc in appendices)

Needs cover page (not counted as text) with title, abstract & other relevant info (your name, date, etc)