

## UGS 303 - EXTRATERRESTRIAL LIFE COMMON PROBLEMS ON THE PAPER

- (1) Introduction
  - The introduction has three roles: to capture the reader’s attention, state your viewpoint, and provide any background material that your reader needs in order to understand the paper and thesis.
  - Capturing the readers attention simply means piquing their interest - make them think “oh, that sounds interesting”. Don’t overdo it.
  - See the below regarding the inclusion of a thesis.
  - Background should only include that which is necessary. Avoid use of trivia.
- (2) Thesis
  - The thesis is not the question you would like to answer, it is the statement that you would like to make. Be aware of the difference between a research question and a thesis.
  - Don’t wait until the conclusion to state your thesis. Make sure the thesis is in the introduction.
  - You may ask your research question in the introduction, but then make sure to answer it.
  - Example: If your question is “Was the Kepler mission worthwhile?”, and your answer is ‘no’, then state within the introduction something like “The Kepler mission was a waste of resources”.
- (3) Body of text
  - Don’t include details that aren’t important. Focus the paper on supporting the thesis.
- (4) Citations
  - Make sure you use in-text citations and a bibliography. These counted for a full grade for this draft. A final paper without citations or biblioraphy is plagiarism and will result in referral to the Dean.
  - Make sure you put all of the citations that you need. For each statement that you make, evaluate whether your audience is expected to know that information without looking it up. If they cannot, then include a citation.
  - Any piece of information that you have gotten from an outside source (i.e. you did not figure it out on your own) must be cited.
  - Any statement in the paper which does not have a citation is attributable to you as the author. Read only the sentences that do not include a citation; are they truly your own work or common knowledge to your audience? If not, add a citation.
- (5) Signal phrases and establishing authority
  - Signal phrase: “According to ...”, “As ... says”
  - The phrase should cite the author, not the journal, magazine, or institution. The place that the information is written is not an authority.
  - Avoid simply using an organization when the author is unknown, e.g. “According to NASA...”. Try to be more specific in order to clarify the source of information for the reader, e.g. “According to the NASA *Kepler* website...”
  - Introduce the author to give them more credibility. Consider “According to Wolfgang Hillebrandt, thermonuclear supernovae are the result merging white dwarfs”, and “According to supernova researcher Wolfgang Hillebrandt, thermonuclear supernovae are the result merging white dwarfs”. In the first case, Wolfgang could just be some guy off the street. In the second, we can see he probably has some knowledge about the subject.
- (6) Using the textbook as a source
  - Don’t use it, unless it is just a particular phrase you are using for background. Think of it as a reader evaluating your paper - is a textbook whose title is “Extraterrestrial Life” an reliable source for information about the greenhouse effect?
  - See Appendix 1 of the textbook (p. 200-203) for a list of better sources.

(7) Fonts, formatting, length

- Use a “normal” margin, font, and line spacing. I read about 40-50 papers. I will notice if you are using something unusual.
- Paper is 4.5-5.5 pages, which means about 1100 - 1400 words.
- The italics used in MS Word, when converted to PDF, seem to come out very strange looking when I print. Be aware that Word and PDF files do not look the same on different computers. For safety, select the “Embed fonts” option when exporting to PDF.

(8) Concision

- Be concise, don’t waste your readers time. Make every word count.
- Meaningless statements are a common problem. Look for words like ‘some’, ‘most’, ‘more’, etc. Read the sentence without those words; does it still make sense and get the point across?
  - “Most climate scientists agree that fossil fuel use is responsible for climate change.”
  - “Climate scientists agree that fossil fuel use is responsible for climate change.”
- Be careful not to overinflate your information by doing this.
  - “Some climate scientists believe that climate change is due to natural forces, such as volcanos.”
  - “Climate scientists believe that climate change is due to natural forces, such as volcanos.”
- Be aware of vague or meaningless statements. These statements need to be eliminated or rewritten to give useful information.
  - “There are some reports that natural processes are responsible for climate change.”
  - “According to the IPCC Working Group I, the sun has gotten brighter in the last 300 years, which effects the global climate.” (Source: Climate Change 2001: The Scientific Basis, Intergovernmental Panel on Climate Change Working Group I, [www.ipcc.ch](http://www.ipcc.ch)).

(9) Voice

- Avoid the use of “I”. When you use first person to present an argument you are relying on the reader to give you authority based on your background. For a research paper, the reader should not care about who you are or your expertise; rather, keep them focused on the information being presented.
- Avoid colloquial language, in particular jargon, clichès, and slang. For an academic paper, do not write the same way that you speak. Make sure that the meaning of your sentences are apparent to any reader; try reading each sentence from the perspective of a non-native english speaker.

(10) Commas

- See “A Pocket Style Manual” section 17.
- Misplaced commas are a common problem. Try reading the sentence without the phrase that is separated by a comma. Does the sentence make sense?

(11) Parenthesis

- Avoid use of parenthesis. Evaluate any parenthetical phrase and decide if it is helpful to the overall statement. If it is not, eliminate it entirely. If you wish to keep the phrase, modify the sentence to include the phrase. You can often either integrate the phrase or delineate it with commas instead (see 17f, 21e).

(12) Spacraft

- Spacraft names should be in italics, mission names should not. Oftentimes a mission and spacecraft have the same name, so be aware of which one you are talking about. Example: the *Kepler* spacecraft and the Kepler mission.
- “Spacecraft” is both singular and plural. Do not write “spacecrafts”.