

Technological Grand Challenges

The assignments in this course are meant to reinforce each other. During the first week we made graphs, considered how to evaluate reliability of sources, included citations, and practiced observing. You had four writing assignments where you practiced using heuristics to guide your writing as you responded to new material. You have gained knowledge about new technologies through readings, watching videos, class discussions, and lectures. Your laboratory work has given you hands-on experience and practice interpreting your observations through calculations and reports. We have looked at the work of some individuals and have frequently looked at applications of science (“technology.”) The course has also given you a chance to show initiative and practice responsibility. In the second half of the course you will be asked to use what you have learned, even as you continue to learn new material. We also will share our knowledge with other students.

Your **2-3 page writing assignments during the next month** should build on the skills and knowledge from the first half of the course. The syllabus labels these **as persuasive papers** (not reaction papers.) The main purpose of a persuasive paper is to convince your audience that the thesis statement in your first paragraph is correct. Make a statement and back it up with quotations or graphs or evidence from cited sources and consider the validity of those sources. Unlike some political discourse that seeks to persuade, you are asked to use logic and reason and facts to make your case. (A fact is something that can be verified or proven, not something that is believed by many people. Many people used to believe that the world was flat but that did not make it a fact. See <<http://www.popsci.com/10-ways-you-can-prove-earth-is-round>>)

Here are some suggestions for persuasive essays, primarily taken from Time4Writing. <<http://www.time4writing.com/writing-resources/writing-resourcespersuasive-essay>>

- The introductory paragraph should have a strong “hook” that grabs the reader’s attention. Open with an unusual fact or statistic, a question or quotation, or an emphatic statement.
- The thesis statement should leave no doubts about the writer’s position. It must be debatable. (“I like chocolate” is not a thesis statement since how could I argue that you do not? “Chocolate is healthy” is a thesis statement, leading to arguments about the relative merits of sugar, fat, polyphenols and mitogenesis.)
- Each body paragraph should cover a separate point, and the sentences of each paragraph should offer strong evidence in the form of facts, statistics, quotes from experts, and real-life examples. Fact-checking matters in this type of writing.
- Consider various ways to make the argument, including using an analogy, drawing comparisons, making a graph or illustrating with a hypothetical situation.
- Describe and refute key points of the opposing view by providing contrasting evidence.
- Don’t assume the audience has in-depth knowledge of the issue. Define terms and give background information as needed.
- The concluding paragraph should summarize the most important evidence. The closing sentence can be a dramatic plea, a prediction that implies urgent action is needed, a question that provokes readers to think seriously about the issue, or a recommendation that gives readers specific ideas on what they can do.

To accomplish this organization, it is likely that you will need more than one draft.

More suggestions can be found at <<http://www.wikihow.com/Write-a-Persuasive-Essay>>.