

ENV 4001: ENVIRONMENTAL SYSTEMS ENGINEERING
Department of Civil & Environmental Engineering
University of South Florida

Global Citizens Assignment
Student Instructions - Overview

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1. Introduction

This document provides an overview of the Global Citizens Assignment (GCA) that students will complete in ENV 4001 this semester. As the semester progresses, additional guidance, materials, and documents will be provided. All documents for the GCA will be posted on Canvas. The GCA will count for 33% of each student's grade (120 points out of a total 360 points). That 33% will be further sub-divided into some different assignments, as described below.

2. Objectives of the Assignment

The purposes of this assignment are:

- to teach you about an important contemporary, complex, global, multi-disciplinary environmental issue;
- to give you practice researching a subject independently (outside the classroom);
- to give you practice working in a team setting;
- to give you experience making decisions based on a body of (sometimes conflicting) evidence and opinions – see also the last section of this document;
- to give you practice with effective written communication;
- to help you gain knowledge of global and cultural systems and issues;
- to help you gain the ability to develop and/or apply context-appropriate actions to address global and cultural issues or situations;
- to help you develop the ability to identify and describe major global issues; and
- to help you develop the ability to weigh options, evaluate planned actions, and/or formulate possible solutions when addressing global issues or situations.

3. Description of the Global Citizens Assignment

This semester's assignment is to prepare a group report on the topic of *global climate change*. Your group will prepare a written report that answers *one* of the following two questions.

- i. In August 2018, the US Environmental Protection Agency (EPA) proposed the Affordable Clean Energy Rule as a mechanism for controlling greenhouse-gas emissions from power plants. The Affordable Clean Energy Rule replaced the Clean Power Plan, which had been an EPA initiative under the preceding presidential administration. Which of these two plans (Affordable Clean Energy Rule or Clean Power Plan) do you recommend that the EPA

should implement, and why? As part of this assignment, you must evaluate the extent to which the EPA's decision will impact the rest of the world, and the extent to which that impact should affect the EPA's decision. (i.e., should the EPA be concerned with how its actions affect countries other than the USA?)

- ii. The USA was originally a member of the "Paris Agreement" on climate change; later we withdrew from this Agreement; later we re-joined the Agreement again. Do you recommend that the USA should be a member of the Paris Agreement, or keep separate? Explain and justify your answer with evidence and reasoning.

There are no "right" or "wrong" answers to these questions. For whichever question your group decides to answer, you must form your own opinion or point of view, and then you must *argue persuasively* for your point of view, employing supporting evidence and a sound line of reasoning. Your paper will be evaluated primarily on the quality of your *thinking*, not on mechanics like grammar or punctuation (though that will count some too).

Hints: Answer the question that is asked of you. Make sure that your group has a clear and coherent point of view, that your point of view addresses the question that was asked, and that I can easily discern your point of view. Make sure that you support your point of view with evidence and sound reasoning. Document your assertions with appropriate references.

4. Guidelines for Report Preparation

There is no set length requirement for this assignment, but I would guess that most of the reports will be around 5–10 pages (double spaced). The maximum allowable length is 12 pages (not including references).

It is fine (recommended, even) to include figures or tables if these help you to address the assignment. Figures can either be prepared by you or can be "borrowed" from other sources. However, you must give proper citations if you use somebody else's figure or table, or even if you create your own figure or table that is based largely on somebody else's work.

Format should follow the *Publication Manual of the American Psychological Association*, 7th edition – this is also called "APA style". Note that there are several editions of this style guide, but we will use the most recent edition, i.e., the 7th edition. If you have questions about the formatting requirements, consult the APA publication manual, or ask the instructor.

5. Plagiarism

If I discover that your final report contains plagiarism, *all group members will receive zero credit* for the assignment. That is likely to have a significant negative impact on your semester grade. It is in your individual interest to make sure that your group members do not engage in plagiarism. If you have questions about what constitutes plagiarism, ask the instructor.

6. Due dates

The GCA will be completed in seven stages. As the semester progresses, additional details will be provided for each stage. Due dates for the seven stages are as follows.

- Wednesday, September 1: Form groups and turn in signed sheet indicating that all group members have completed preliminary tasks (details to be provided separately)
- Monday, September 20: Draft of your opening paragraph(s)
- Monday, October 4: Annotated list of at least 10 references (*not* web sites!), with full bibliographic information, in proper APA format
- Monday, October 18: Outline of your paper indicating your lines of evidence/argument
- Wednesday, November 3: Rough draft of entire report (including complete references)
- Wednesday, November 17: Peer review of another group's report (completed individually)
- Wednesday, December 8: Final report

7. Grading

You will receive a numerical score for the GCA, which will count towards your semester grade. The numerical score will be based on the seven stages of the report as described above. Weighting is as follows:

- Preliminary tasks, 5 pts
- Opening paragraph, 10 pts
- Reference list, 10 pts
- Outline, 10 pts
- Rough draft, 5 pts
- Critique of another group's rough draft, 10 pts
- Final report, 70 pts (50 points for writing rubric + 20 points for ABET/GCA rubric)

In the not-too-distant future, I will provide you with the two rubrics that show you the criteria on which your final papers will be graded.

All members of a group will receive the same grade on the preliminary tasks, opening paragraph, reference list, outline, rough draft, and final draft (i.e., all parts except the peer review). Therefore, it is in your individual interest to be sure that your group members are contributing to the effort. It is especially in your interests to make sure that nobody in your group conducts plagiarism.

At the end of the semester, students will be given the opportunity to evaluate their group members' contributions. Group members who did not perform their fair share of the work will be penalized appropriately, and group members who did more than their fair share will be rewarded.

8. What Is the Point of this *^% Assignment, Anyway?

There are two over-arching pedagogical goals of this assignment: to help you become *critical thinkers*, and to help you become *global citizens*. These two goals are related and intertwined: achieving one almost necessarily means that you must achieve the other simultaneously. In Section 2 of this document, I listed the objectives of this assignment; all the objectives listed are related to critical thinking, global citizenship, or both.

Perhaps that list of objectives was enough to convince you that the benefits you will gain from this assignment merit the effort that you will put forth through the semester. If not, then please consider this assignment through the lens of Bloom's Taxonomy. Over 50 years ago, Benjamin Bloom and his colleagues developed a "taxonomy" to characterize different types of thinking in which we engage when learning. These levels are:

1. *Knowledge* (Exhibit memory of previously-learned materials by recalling facts, terms, basic concepts and answers)
2. *Comprehension* (Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas)
3. *Application* (Use new knowledge; solve problems by applying acquired knowledge, facts, techniques, and rules in a different way)
4. *Analysis* (Examine and break information into parts by identifying motives or causes; make inferences and find evidence to support generalizations)
5. *Synthesis* (Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions)
6. *Evaluation* (Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria)

Bloom's taxonomy is echoed in many of the goals of USF's Global Citizens Project. For instance, as part of USF's Global Citizens Project, students are expected to develop and apply the cognitive skills of *knowledge*, *comprehension*, *analysis*, *synthesis*, and *evaluation* – five of the thinking skills identified by Bloom. This is why I say that critical thinking and global thinking are two sides of the same coin.

In this writing assignment, you are asked to recommend a course of action on how to address global warming. Answering this question requires you to go through a series of steps: read about climate science and policy to gain *knowledge* on the subject; *comprehend* what you have read; *analyze* the evidence or arguments presented by the different authors; compile and mentally *synthesize* the different arguments that you read; and *evaluate* the merits of the conflicting arguments that you will encounter. In other words, you are being asked to achieve the highest level of Bloom's taxonomy! In some senses, this is a little bit unfair; the highest levels of Bloom's taxonomy are typically achieved only by experts in any particular field, and I don't really expect you to become experts on global warming science or policy in only one semester. But we will see how close we can come! USF has a policy that students should "engage in analytical, reflective, and critical thought -- that is, to go beyond verbatim learning of factual information." That means, USF expects you (and I expect you) to achieve higher-level thinking skills. The only way to develop these skills -- or any skill -- is to practice!

Global climate change is an ideal topic with which to challenge you to achieve both critical thinking and global thinking. We are frequently exposed to conflicting evidence regarding whether global warming is "real", who or what is responsible for it, what should be done to address this (purported) problem, and what the roles of different countries or agencies should be. In order for you to make up your own mind on these questions, you will have to engage in critical thinking by evaluating the arguments on multiple sides of the issues, and in global thinking by developing context-appropriate recommendations to address a global issue.