

Math 130 Project

The goal of this project is to help you gain a deeper understanding of mathematics and to have you explore how math can connect to your field of study/hobbies/etc. It also gives you a chance to write instead of “doing math.”

Audience: Write your paper for fellow undergraduate students to show them how math applies to the topic you choose.

This is an individual assignment. You must write the paper on your own, as a piece of original work. It is acceptable to ask someone to help you proofread your completed paper, but you must make any final changes. You are strongly encouraged to utilize the CSU Writing Center (<http://writing.colostate.edu/wcenter/>) if you need help or have questions, for example, on citing references, or writing a strong thesis. You are not allowed to submit a paper previously submitted for this class.

Your grade on this project will be based on a written response paper submitted electronically. Your paper will be evaluated on the following five categories:

- On time submission of thesis and outline. (10 points total, 5 for each component.)
- Thesis (10 points): Introduces topic and identifies the 3 subtopics that will be addressed in your paper.
- Organization (20 points): Five paragraphs: Introduction (with thesis), 3 body paragraphs, and conclusion.
- Arguments (30 points): Do your arguments support your thesis? Are they logical and well supported? Do your arguments show a strong understanding of the mathematics? (Watch out for making unsupported claims such as “Everyone hates math.” or “We would all be surprised to find that math shows up everywhere.”)
- Evidence (20 points): You must use at least 1 source. **A works cited page is required and you must use in line citations. MLA format is required.**
- Mechanics (10 points): Grammar, spelling, etc. Read over your paper (preferably out loud) before turning it in, or you will likely be disappointed in your grade. The paper must be typed and 500-1000 words long. Papers that are shorter or longer automatically get docked 5 points. The paper must be doubled spaced, 12pt font in something readable (Times New Roman, Arial, Cambria).

Make sure to put a good amount of time into the paper, if you start it the night before, your grade will likely be lower than you expect. Also- PLEASE PROOFREAD!!!!

SafeAssign- You will submit your paper by uploading a digital copy into RamCt using the SafeAssign tool. This tool will compare your paper to many common sources to check for plagiarism. From the Student Conduct Code for Colorado State University, “Plagiarism includes the copying of language, structure, images, ideas, or thoughts of another, and representing them as one’s own without proper acknowledgement; the failure to cite sources properly; sources must always be appropriately referenced, whether the source is printed, electronic or spoken.” Students found to have engaged in plagiarism will be subject to academic sanctions affecting the grading of this project. Incidents of academic dishonesty **will** be referred to the Office of Conflict Resolution and Student Conduct Services. **Check your safe assign report and make changes if necessary!!!**

UsingSafeAssign: Preferred format is .doc or .docx. Utilize the discussion board on RamCT if you are having issues submitting. Allow time to overcome technical problems!

Examples of inline citation:

- “Aren’t you a little short for a storm trooper?” (Leia 1973).
- If imprisoned on the Death Star, it is beneficial to pay attention to the height of storm troopers. (Leia 1973) *(Not a direct quote, but a paraphrase/use of Leia’s idea.)*

Project Topics- choose one of the following, explore, and then write your paper!

- 1) Read “How to Lie with Statistics” by Darrell Huff. Choose three scenarios discussed by Huff and find modern examples. Write about the examples you found, and explain how they relate to Huff’s descriptions.
- 2) Read about symmetry in Chapter 11 in the text. Find three examples of symmetry- on/off campus, in buildings, nature, etc, but not online. Take a picture showing you and each example, to be included in your paper. Make sure the symmetry is different for each example. (i.e. get one example of a reflection, one of a rotation and one of a glide reflection.) Explain the symmetry in each object. (hint- if you want to write about sports, try looking for symmetry!!!)
- 3) Read about Fibonacci numbers in Chapter 9 in the text. Find three examples of Fibonacci numbers- on/off campus, in buildings, in nature, etc, but not online. Take a picture showing you and each example, to be included in your paper. Explain the Fibonacci connection in each object. Creative examples will earn higher grades- try to include different representations of Fibonacci numbers- look for golden proportions, spirals, as well as objects with Fibonacci numbers.
- 4) Plan a work of art (sculpture, poem, song, knitted project, etc.) but involve mathematics(hints- use symmetry or Fibonacci numbers- see 2 and 3 above). How is the math incorporated in your art? What did the math inspire you to do differently than you might have normally done? Include a digital representation work of art if possible- photograph, copy of a poem, You-Tube video, etc.
Some examples/math ideas you might want to check out:
<http://bridgesmathart.org/>, fractals, klein bottles