

Math 1030 - Final Project Guidelines

Choose a topic that illustrates how you expect mathematics and/or qualitative reasoning to be important in your future. You can show how a mathematical concept will be important for you to understand, how you might use quantitative thinking in your future work, or how quantitative reasoning will make your future more interesting and meaningful.

You might want to expand on a topic that was discussed in class, you might want to examine an interesting application of a problem that was covered in class, you might want to choose a topic that is covered in the text even though it was not covered in class, or you may choose another mathematical topic or quantitative problem that interests you. Students have done statistical analysis on an idea; others have explained statistical reports from the media. Some reports investigate financial situations, and some explain the probability of different activities. Some reports explain how particular ideas are modeled mathematically, while others explore the role math has in our lives. People have also reported on the way math is used in art, logic, and history. Quantitative analysis can be almost anything that examines numbers or critical thinking and the way they are used. Several recent topics that students have reported on are listed at the end of these guidelines.

There is no specified length, but most projects take five pages to cover well, and five minutes to present. It is important to have references and a bibliography in the written report to show where information was obtained.

The purpose of the project is to:

1. Research a mathematics-related topic which you think will be important to your future.
2. Present your findings orally to the class in an interesting format.
3. Write a report summarizing what you have learned through your research.

The report should be as well written and complete. You should thoroughly describe what your topic is and why it is important. Collection and presentation of data are not enough. If your project involves data collection, you must do something with the data, such as make projections or comparisons or apply the data to a real world situation that has bearing on our lives. If your report includes calculation, it should demonstrate and explain how the results were generated. Do not refer to the oral presentation in the written report. Your report needs to be complete in itself; in the oral presentation you will tell the class what you have written about in the report.

The first step is to submit a proposal that describes your project. The proposal should be specific and should include a description of the issue you intend to pursue and your research methodology (e.g., reading literature, interviewing people, doing experiments, using the Internet). It should also include a description of the type of class presentation you will make (e.g., verbal report, computer demonstration, audio or video tape, teaching a lesson). Your instructor will give you feedback: either a "go ahead," or suggestions for change you may want to consider.

The last day to have the topic for your final project approved is July 6 (July 9 for section Math 1030-004). **It is worth 1% of the 24% possible for the project.**

You may consult with your instructor at any time about the feasibility of your proposed project. If you decide after starting that your project, or its scope, is not feasible, you may amend it, so long as you state in the final report how you changed it and why you found it necessary to make changes.

The second step towards completing your project (after researching and organizing your information) is to write a rough draft and discuss it to the teacher. There is not class time for this, so you must arrange a time with your instructor. The introduction to your project explains what you are doing, why you chose the topic, and any hypothesis you have. The body of the project describes information you use and what you do with it. The conclusion gives the meaning of what you have done or found. Include a bibliography at the end for any references used.

The last day to have the draft of your final project read and reviewed by the instructor is July 27. It is worth 3% of the 24% possible for the project. This discussion with the instructor greatly enhances your chances to receive all 14% possible from the instructor's grade.

When the teacher reads your draft, and later grades your paper, it is important that you have done something interesting, and gives *a discussion of math at the level we have studied in this class*. The teacher looks for content and logical structure. The SLCC Writing Center (<http://www.slcc.edu/swc/index.asp>) is an important source of help to organize your writing and making it meet college standards. You will need to schedule an appointment with a writing advisor there. Along with the draft of your report you should take these project guidelines, any notes or outlines you have made regarding the report, and any data you have collected. Be sure to have your writing advisor fill out an attendance notice for verification that you have been there. You may wish to take advantage of the Writing Center services in the preliminary stages of your project as well.

The final step is to use the information from your talk with the instructor, and the writing center consultation, to write the final version of your report.

The report is graded on both interest and completeness. A principal purpose of this class, and of this project, is to *express quantitative ideas logically*. The most important criteria in grading are: Did you do what you said you were going to do, and does your material support your conclusion?

The final project is worth 20% of the total score for the semester earned in the following manner:

- 1% for submitting an acceptable proposal for the topic on time.
- 2% going over the rough draft with instructor on time.
- 3% averaging the rating of other class members from presentation.
- 2% being an active listener and rating all the other class members.
- 2% having the SLCC Writing Center read and advise on the final paper.
- 14% instructor's grade for paper and presentation.

Your instructor will provide you with the following page when the final projects are presented so that each person can rate the presentations of the other class members.

Your Name _____ date _____

MATH 1030 *Ω ∞* Presentation Rating

Rate each presenter from 0 (really sad) to 10 (outstanding) on the following topics:

Interest of Topic

Use of Quantitative Reasoning: numbers, logic, geometry, etc.

Organization and Logic

Thoroughness, Completeness, Research

Delivery

Add any comments you wish after entering your scores.

Presenter's name _____ Topic / Title _____

Interest Use of Quant. Reason Organization Completeness Delivery

Comments

Presenter's name _____ Topic / Title _____

Interest Use of Quant. Reason Organization Completeness Delivery

Comments

Presenter's name _____ Topic / Title _____

Interest Use of Quant. Reason Organization Completeness Delivery

Comments

Presenter's name _____ Topic / Title _____

Interest Use of Quant. Reason Organization Completeness Delivery

Comments

Some recent topics for final projects

“Can the Mundurucu Do Geometry?” “Figuring Strength Gain with Quantitative Mathematics,”
“Carbon Footprint,” “Salt Lake City Homicide and Police Budget,” “Invention of the Musical Scale,”
“The Multiplying Power of Viruses,” “Obesity: The Comparison between Children and Adults,”
“Residential Photovoltaics: Financing to Own vs. Rental,” “Salt Lake County Population Growth,”
“Hybrid vs. Conventional Cars,” “Fast Food Epidemic,” “Ramsey Snowball Debt Method,”
“The Super Bowls to XLII,” “Skid Marks,” “Attendance in Primary,” “The Odds for Craps,”
“Fast Food Breakdown,” “The Costly Criminals,” “Guns and Swimming Pools,” “Satellites,”
“How Coffee Affects Sleep,” “Tips Related to Alcohol and Credit Card Use,” “Homeless Pet Stats,”
“Property Taxes: Mistakes That Are Made.” “Mathematics of Harmonics and the Musical Scale,”
“Mathematising Language,” “Sport Salaries and Teaching Salaries,” “Military Spending and Education”
“Ski Visitors vs. Injury Rate,” “Obesity Rates vs. Fast Food Restaurants,” “Global Warming and Population”