

Math 341 Project Description

Approve Idea, May 5, 2023

Rough Draft, May 26, 2023

Final Draft of Paper, June 9, 2023

This is a project designed to allow you the chance to focus a little on whatever aspect of Linear Algebra you might find interesting or intriguing. Your options for projects can be found on our text book's webpage:

1. Go to Projects
2. Each Chapter has multiple topics that range from theoretical topics to applied topics in a variety of disciplines. You can choose from:
 - (a) Chapter 2: A-E, G
 - (b) Chapter 4: B-E
 - (c) Chapter 5: A, B, D
 - (d) Chapter 6: A, B
3. Review a wide variety topics. Do not assume just because the referenced section is further in the text that it is "harder". You should choose a topic that interests you or is relevant to your major.

Topic Approval: In order to have an acceptable project, you must first **approve your idea for your project with me**. In other words, if you don't discuss your project idea with me, I will **not** accept your project. In some cases I may reduce/increase the number of questions addressed in the website's description. Please send an email directly to me with your topic idea. I will inform you if the topic is appropriate and if any modification to the description is required.

Partners: You may work with at most one other person in the class. You are strongly encouraged to do so, it should make the work load lighter. If you chose to work with a partner, you are both equally responsible for the finished project, regardless of who worked on it the most. (So chose your partner wisely!) Only one write-up is to be turned in with both of your names on it. Again, you will both receive the same grade on the project.

Help: You are allowed to seek help from any source. This includes; professors (from any subject), fellow students, me, the internet, tv, books, friends, and pretty much any source of useful information in existence. These are only sources of information, not to be plagiarized; the work, thought, and explanations must be your own. Me, your professor, am willing and able to help you, both in understanding the topic you have chosen as well as assist you in ensuring your write-up includes all necessary information.

Technology: There is no restrictions on what technology you decide to use to assist you in answering questions and performing computations. There are many

online matrix calculators that will help with computations involving large matrices. Some of you may wish to dive a bit deeper into the computations and actually create/use some programs. For many of these the Octave Software will be sufficient for the computations, the command given for Matlab will run in this online compiler. For some projects a Graphing Calculator will suffice. Other projects require no significant computations, so by hand calculations are reasonable.

Write-up: Your grade for this project is be based upon your ability to address and include the following requirements in your paper:

1. The project must be typed and presented in a logical order.
2. The project must include a title page with your name(s) and a title of your choosing.
3. The project must have a statement of the problem you are solving or a basic description of the concept you are presenting.
4. Include background information explaining which aspects of linear algebra are useful in your application and why they will assist you in understanding the concepts presented in your paper.
5. Include any definitions needed which were not defined in class.
6. Include explanation of techniques and/or methods needed which were not discussed in class.
7. Include any questions asked in the project and detailed solutions, with explanation/justification of each solution.
8. You must include, in an appendix, any detailed work that was computed or programs implemented.
9. You must include a reference page if sources other than our text was used (this includes websites).
10. The project must be written at a level that any passing student in the course could understand it and learn from it. Just having the solutions to the prompts does not satisfy this requirement.

If you have any questions about the write-up, bring me what you have and I can give you pointers. You may do this as many times as you would like.