

Final Project Overview

Project Description

- You have been a data scientist since the day you began this program. You may not have recognized it, but it's been there the whole time. In this course, you're not only going to recognize it, but also show us what you can do.
- You will be performing 3 analyses and presentations of data that is useful to you, or interesting enough to examine. Here are the parameters of each of the deliverables
- All due dates are Sunday evening.
- Each of these projects are domain agnostic, data agnostic, and method agnostic. This means that you can pull data from any domain, analyze it using whatever method you deem worthy, and use data that already exists in any form. The suggestion would be to work on projects that are more than just EDA - instead follow the end to end data science process, which would include modeling.
- What you will be doing with your data, method, and domain is providing a useful analysis to those who work in that domain. You will have to define it, show it, and visualize it in a useful, jargon free story.
- The schedule for these projects is as follows:

Weeks 1 – 4 – The First Project

- Week 1/Milestone 1 – Proposal and Data Selection
 - See template below
 - Find your Data Source
 - Write your research questions, along with any potential ethical implications
 - Propose your project.
 - Week 2 - Work on Project
- Week 3/Milestone 2 – Draft of White Paper
 - See template below
 - 3-5 pages (illustrations do not count toward page count)
 - APA References.
 - Include at least 3-5 illustrations (not included in page count)
 - 1 Appendix (Supporting documentation)
 - 10 Questions an audience would ask you (Answer in Milestone 4)
- Week 4/Milestone 3 – Presentation

- Must be a recorded presentation with audio - recording video is optional
- Submit a presentation with audio
- Your final white paper
- Questions/answers you came up with that you would be asked by the audience
- Code (a link to GitHub will also work)

Weeks 5 – 8 – The Second Project

- Week 5/Milestone 1 – Proposal and Data Selection
 - See template below
 - Find your Data Source
 - Write your research questions, along with any potential ethical implications
 - Propose your project
 - Week 6 - Work on Project
- Week 7/Milestone 2 – Draft of White Paper
 - See template below
 - 3-5 pages (illustrations do not count toward page count)
 - APA References.
 - Include at least 3-5 illustrations (not included in page count)
 - 1 Appendix (Supporting documentation)
 - 10 Questions an audience would ask you (Answer in Milestone 4)
- Week 8/Milestone 3 – Presentation
 - Must be a recorded presentation with audio - recording video is optional
 - Submit a presentation with audio:
 - Your final white paper
 - Questions/answers you came up with that you would be asked by the audience
 - Code (a link to GitHub will also work)

Weeks 9 – 11 – The Third Project

- Week 9/Milestone 1 – Proposal and Data Selection
 - See template below
 - Find your Data Source
 - Write your research questions, along with any potential ethical implications
 - Propose your project.
- Week 10/Milestone 2 – Draft of White Paper
 - See template below
 - 3-5 pages (illustrations do not count toward page count)

- APA References.
- Include at least 3-5 illustrations (not included in page count)
- 1 Appendix (Supporting documentation)
- 10 Questions an audience would ask you (Answer in Milestone 4)
- Week 11/Milestone 3 – Presentation
 - Must be a recorded presentation with audio - recording video is optional
 - Submit a presentation with audio
 - Your final white paper
 - Questions/answers you came up with that you would be asked by the audience
 - Code (a link to GitHub will also work)

Final Project Grading Criteria

Each milestone will be evaluated based on the following, (See rubric for full details):

Milestone 1: Proposal and Data Selection

- Data source quality
- Research question quality
- Proposal grammar
- Proposal Organization
- Ethical Considerations

Milestone 2: Project Draft

- Meets Requirements
- Draft Format & Quality
- Visualizations and Storytelling
- Ethical Considerations

Milestone 3: Presentation

- Presentation
- Final Report Analysis/Methods/Interpretation of Results
- Meets submission requirements
- Questions have been answered
- Ethical Considerations

Final Project Templates

Each Milestone must follow the following template:

- **Milestone 1 - Proposal**
- Submit a proposal with the following topics covered as a PDF:

- Topic - Describe and name your project in 1-2 sentences max.
 - Business Problem - Describe the business problem your project is trying to solve and/or the research questions you will explore.
 - Datasets - where are you getting your data? Describe the data that you will use to solve the problem.
 - Methods - What analysis methods will you use to complete this project?
Note: this is just a proposal, your project can adapt as you work on it.
 - Ethical Considerations - What are some potential ethical concerns of this topic or analyzing the data?
 - Challenges/Issues - What are some issues and challenges do you think you might face?
 - References - What sources will you use to validate your results and support your project topic?
- **Milestone 2 - Draft White Paper**
- Submit a draft of your white paper with the following topics covered as a PDF:
 - Business Problem
 - Background/History
 - Data Explanation (Data Prep/Data Dictionary/etc.)
 - Methods
 - Analysis
 - Conclusion
 - Assumptions
 - Limitations
 - Challenges
 - Future Uses/Additional Applications
 - Recommendations
 - Implementation Plan
 - Ethical Assessment