

Project Proposal Rubric (out of 10)

Fall 2021

	Insufficient	Satisfactory	Good	Excellent
Project Data and Methodology (4)	Data source(s) are not proposed. No clear plan for project completion.	Data source is typical. Methodology is a simple application of an approach discussed in class.	Data drawn from multiple sources or single source and somewhat challenging to use. Methodology is an extension of an approach discussed in class.	Data drawn from multiple sources or single source and will be challenging to use. Methodology combines multiple components (e.g., prediction and optimization) or rigorously compares different approaches and go well beyond lab content.
Creativity/Originality (3)	Idea is inappropriate. Data and methodology are not relevant for the problem. No suggested outcomes.	Idea is borrowed or standard and not well-motivated. Data and methodology somewhat capture the problem and proposed outcomes are expected or unoriginal.	Idea is appropriate and somewhat well-motivated. Data and methodology mostly capture the problem, and the proposed outcomes are relevant.	Idea is interesting and well-motivated. Data and methodology fully capture the problem, and the proposed outcomes are relevant and novel.
Writing Quality (3)	Incoherent with numerous grammatical errors and a lack of structure.	Partially clear with regular grammatical errors. Poorly structured.	Mostly clear with some grammatical errors. Well structured.	Very clear with almost no grammatical errors. Very well structured.

Preliminary Report Rubric (out of 15)

(Fall 2021)

	Insufficient	Satisfactory	Good	Excellent
Exploratory Data Analysis (5)	<p>Inappropriate/ insufficient dataset. Data is not appropriately cleaned.</p> <p>EDA Analysis is irrelevant to the main problem</p>	<p>Appropriate but insufficient dataset. Data has been somewhat transformed for the problem</p> <p>Contains superficial EDA insights</p>	<p>Appropriate dataset. Data has been appropriately transformed for the problem.</p> <p>Contains some EDA insights to guide the model</p>	<p>Unique dataset. Data has been perfectly transformed for the problem.</p> <p>Contains many interesting EDA insights to guide the model</p>
Initial Model (3)	<p>Methods are both infeasible & inappropriate.</p> <p>Modelling is irrelevant to the main problem</p>	<p>Methods are insufficient to answering the problem or incorrectly applied.</p> <p>Contains superficial insights</p>	<p>Methods are appropriate for the problem & mostly correct.</p> <p>Contains some insights</p>	<p>Methods are thought-out, ideal for the problem, & correct.</p> <p>Contains many interesting insights</p>
Next Steps (3)	<p>Unclear plan going forwards. Not connected to the EDA OR initial results</p> <p>No suggestions for model improvements or extensions</p>	<p>Somewhat clear plan going forwards, somewhat guided by the EDA or initial results</p> <p>Unreasonable suggestions for model improvements or extensions</p>	<p>Mostly clear plan going forwards guided by the EDA or initial results.</p> <p>Reasonable suggestions for model improvements or extensions</p>	<p>Completely clear and well motivated plan going forward guided by the EDA and initial results</p> <p>Creative suggestions for model improvements or extensions</p>
Writing Quality (4)	<p>Incoherent with numerous grammatical errors and a complete lack of structure/flow</p> <p>Diagrams are nonexistent or unclear.</p>	<p>Partially clear with regular grammatical errors. Poorly structured with little flow</p> <p>Diagrams are not relevant or labelled.</p>	<p>Mostly clear with some grammatical errors. Decently structured and decent flow.</p> <p>Diagrams are relevant but sometimes unclear.</p>	<p>Very clear with no grammatical errors. Well structured and strong flow.</p> <p>Diagrams are relevant, labelled and clear.</p>

Abstract Rubric (out of 5)

Fall 2021

	Insufficient	Satisfactory	Good	Excellent
Writing (3)	Poorly written with many errors. Problem setup & conclusion are inappropriate or missing. Formatting & length instructions were not followed.	Written with some errors. Problem & conclusion are not well-motivated or connected. Formatting & length instructions were followed.	Mostly well written with minor errors. Problem is somewhat motivated. Conclusions are correct but do not tie back to the main problem.	Very well written with no errors. Problem is clearly written and well-motivated. Conclusions are correct and tie results back to the main problem.
Methods & Results (2)	Methods & results are inappropriate, missing, or poorly described.	Methods & results are appropriate, but missing key parts.	Methods are appropriate for the problem. Results are included, but does not connect to the methods.	Methods are clear and relevant. Key results are included and connect to the methods described.

Presentation Rubric (out of 25)

Fall 2021

	Insufficient	Satisfactory	Good	Excellent
Presentation of the problem (5)	Problem is inappropriate and poorly described.	Problem is somewhat appropriate, but not well described or motivated.	Problem is appropriate and well described and motivated.	Problem is well introduced, and convincingly motivated and concluded.
Methods & implementation (6)	Methods are presented with excessive or limited detail. No graphics are used to enhance explanations.	Portions of the methods are presented with sufficient detail. Few graphics are used to enhance explanations.	Methods are presented with appropriate detail and justification. Some graphics are used to enhance explanations.	Methods are clearly presented with detail and convincing justification. Graphics are used to greatly enhance explanations.
Evaluation (6)	Evaluation metrics are unclear or are not mentioned. Results are not presented.	Evaluation metrics are somewhat clear and may be inappropriate for the problem. Results are unclear or difficult to interpret. Some weak benchmarks are present.	Evaluation metrics are mostly clear and appropriate for the problem. Results are reported with benchmarks and appropriate analysis.	Evaluation metrics are clear and appropriate. Results are clearly reported with benchmarks. Thorough analysis highlights strengths and weaknesses of methods.
Delivery (5)	No members speak clearly or are easy to understand. All questions are answered inappropriately.	Some members speak clearly, are well-paced, and are easy to understand. Some questions are answered appropriately.	Most members speak clearly, are well-paced, and are easy to understand. Most questions are well-received and answered.	All members speak clearly, well-paced, and are easy to understand. All answers demonstrate clear understanding of the work.
Organization (3)	Very few slides are aesthetically pleasing. Presentation is not 5 minutes 20 seconds long, or slides do not auto advance every 20 seconds.	Some slides are aesthetically pleasing. Presentation is 5 minutes and 20 seconds long, and slides auto advance every 20 seconds. (i.e., follows PK format)	Most slides are aesthetically pleasing. Information on most slides is appropriate for 20 second auto advancing slides.	All slides are aesthetically pleasing. Information on all slides are concise and clear to follow in PK setting.

Final Report Rubric (out of 45)

Fall 2021

Final Report Rubric (out of 45)

	Insufficient	Satisfactory	Good	Excellent
Problem Setup (5)	Problem is inappropriate & poorly described.	Problem is somewhat appropriate, but not described clearly or well-motivated.	Problem is appropriate, understandable, and well-motivated.	Problem is interesting, described clearly, & convincingly well-motivated.
Data Collection & Exploratory Analysis (10)	Data is inappropriate for this problem or has not been appropriately cleaned.	Data has been somewhat transformed to be relevant for the problem. Exploratory analysis is superficial & not useful.	Data collection/transformation is appropriate. Exploratory analysis gives useful insights to the problem.	Data collection/transformation is perfect for the problem. Exploratory analysis reveals insights that are later used to produce better methods.
Methods & Implementation (10)	Methods are both infeasible & inappropriate. No validation, parameter tuning, or sensitivity analysis.	Methods are insufficient to answer the problem or incorrectly applied. Limited validation, parameter tuning, or sensitivity analysis.	Methods are appropriate for the problem & mostly correct. Models have had some validation, parameter tuning, and sensitivity analysis.	Methods are thought-out, ideal for the problem, & correct. Models are properly validated with parameter tuning & sensitivity analysis.
Insights (10)	No quantitative analysis and the model performs poorly. No high-level insights are drawn from the analysis.	Some quantitative analysis is given, or the model does not perform very well and weaknesses are not identified. High-level insights are not relevant.	Quantitative analysis is given. Model performs somewhat well relative to the task. Some weaknesses are explained. Analysis yields one interesting, high-level insight.	Quantitative analysis is given. Model performs very well relative to the task. Any weaknesses are explained. Analysis yields multiple interesting, high-level insights.
Summary (5)	The main question was not answered. No meaningful next steps are suggested.	Analysis & results suggest the main problem was partially answered. Some next steps are suggested.	Analysis & results conclude the main problem was appropriately answered. Relevant next steps suggested.	Analysis & results conclude the main problem was answered successfully. Interesting next steps given.
Presentation & Writing (5)	Writing is mostly unclear with major errors. Diagrams are non-existent or unclear. Does not follow formatting instructions.	Writing is at times unclear with multiple typos. Diagrams are not relevant or labelled. Does not follow most formatting instructions. Clear abuse of appendices.	Writing is mostly clear. Minor typos. Diagrams are relevant but sometimes unclear. Follows most formatting instructions. Appendices (if included) are somewhat necessary & relevant.	Writing is consistently clear & correct. Diagrams are relevant, labelled, and clear. Follows all formatting instructions. Appendices (if included) are necessary & relevant.