



Final Project I

Intro to Project



- Process
 - Data to Questions
 - Questions to Investigation
 - Investigation to Modeling
 - Modeling to Communication
- Randomly Assigned to Research Groups of 4 or 5
- Four Deliverables
 - Project Proposal (10 Pts)
 - Exploratory Data Analysis (20 Pts)
 - Final Presentation (30 Pts)
 - Final Written Paper (40 Pts)

Intro to Project



- Requirements on Deliverables
 - 4 Clearly Defined Roles
 - Requires Accountability
 - Demands Work from Everyone
 - Forces Delegation
 - Reason: Different People Have Different Skills
 - Each Part of the Project Will State the Expectations of All Members of the Group According to Their Role

Intro to Project



- Final Project Score
 - 30% of Course Grade
 - Members of the Group Will Receive the Approximately the Same Grade
 - Mostly Objective:
 - Follow All Rules
 - Meet All Deadlines
 - Well-Defined Rubrics
 - Partially Subjective
 - Interest Level
 - Verbal Communication
 - Written Communication
 - Grammar and Spelling
 - 10% of Grade is Peer Reviews
 - Fill out survey found on the course website
 - Four surveys will be available
 - If giving everyone a 5, don't need to complete survey

Four Roles



- Role 1: Creator
 - Schedule a 5 Minute Meeting with Dr. Mario in Office Hours
 - Verbally Explain the Dataset(s) Your Group has Chosen
 - Verbally Communicate the Initial Questions Your Group Plans to Pursue
 - State the Roles the Other Members Have Chosen
 - Lead Designer in Slides for Final Presentation

Four Roles



- Role 2: Interpreter(s)
 - Schedule a 10 Minute Meeting with Dr. Mario
 - Briefly Discuss Any Interesting Results from the Initial Questions
 - Discuss Your Group's Findings on The Follow-up Questions
 - Explain Which Areas Your Group Will Focus on For the Final Presentation and Paper
 - Responsible for Watching Practice Presentation Before Exam Day
 - Groups of 6 will have 2 Interpreters

Four Roles



- Role 3: Orators
 - Deliver a 3-5 Minute Presentation on the Day of Final Exam
 - Use a Slide Show
 - Explain the Data You Used
 - Show Visuals/ Tables to Illustrate Discoveries
 - Discuss Details of Methods Used For Questions Your Group Pursued Deeper After the EDA
 - Summarization of Written Paper
 - Groups Will Have 2 Orators

Four Roles



- Role 4: Deliverer
 - Proposal, EDA, and Final Paper Will Follow RMarkdown Templates
 - Ensure that These Parts are Organized According To Templates
 - Ensure that These Parts are Free of Grammar and Spelling Errors
 - Ensure that These Parts are Clearly Explained and Hit All Requirements
 - Submit All Templates Before 5 PM on Due Dates in HTML
 - Submit Slides Before Final Presentation on Exam Day

Four Roles



- Abbreviated Roles
 - Creator (C)
 - Interpreter (I)
 - Orator (O)
 - Deliverer (D)
- For Each Part, There Are Clearly Defined Expectations for Each of These 4 Roles

Part 1 Project Proposal



- Select Data From Online (CIOD)
 - Must Contain At Least 5 Variables (Non-Identifier)
 - May Be Divided Into Multiple Data Sets (Requires Joins)
 - At Least 2 Variables Must Be Categorical or You Must Have a Clear Idea on How You Will Treat Numerical Variables as Categorical
- 2 Initial Questions From Each Member (CIOD)
 - Innovative Thought
 - Non-Trivial (Not Obvious)
 - Groups of 4 = 8 Questions
 - Groups of 5 = 10 Questions
- Delegate Your Roles (CIOD)

Part 1 Project Proposal



- Template Submitted in HTML via Canvas by Due Date (D)
- Communication of Proposal (C)
 - Schedule a 5 Minute Meeting in Office Hours Within 4 Days After Due Date
 - Have Computer With Data Ready
 - Information on:
 - Data Source
 - Variables Contained
 - Types of Variables
 - Questions Your Group Will Investigate and Variables of Interest
 - What Roles Your Other Members Are Taking

Part 2 Exploratory Data Analysis



- Investigate Initial Questions (CIOD)
 - Divide All Initial Questions Evenly Among the Group
 - 1 Table or Figure for Each Proposed Question
 - Each Should Answer the Questions They Proposed with 1 Table or Figure Per Question
- Follow up Questions (CIOD)
 - Propose 4 Additional Questions You Want to Explore for Statistical Significance Based on What You Found in Pursuit of Answering Initial Questions
 - Attempt Some Basic Modeling to Answer These Questions or Perform Statistical Tests

Part 2 Exploratory Data Analysis



- Investigate Follow-Up Questions (CIOD)
 - Display 1 Table or Figures
Illustrating Your Attempt to Answer
2 of the Four Follow-Up Questions
- Summarize Investigation (CIOD)
 - Follow Rmarkdown Template
 - Results From Initial Questions
Should Be Divided According to
Each Member
 - Follow-Up Questions Should Be
Proposed
 - Results from Investigating Follow-
Up Questions

Part 2 Exploratory Data Analysis



- Written Summary (CIOD)
 - Paragraph 1: Describes what you learned from your investigation of the initial questions.
 - Paragraph 2: Describes what you learned from your investigation of the follow-up questions
- Template Submitted in HTML via Canvas by Due Date (D)
- Schedule a 10-Minute Presentation in Office Hours within 4 Days After Due Date (I)

Helpful Advice



- Project Proposal
 - Choose Roles Based Off Strengths and Availability
 - Select a Dataset That is Interesting With Many Variables (>10) and Many Observations (>500)
 - Pick Very General Initial Questions
 - Work as a Team to Come Up With All Initial Questions Then Split Them Up as a Group

Helpful Advice



- Exploratory Data Analysis
 - After Exploring Initial Questions Meet to Discuss Results
 - Discuss Creatively in a Group Regarding Possible Follow-Up Questions
 - Investigate the Follow-Up Questions as a Team
 - Discuss the Information That Will Be Written About in the Summary
 - The More Time You Take on This Part the Easier the Final Presentation and Paper Will Be

Helpful Advice



- General Advice
 - Do Your Job and Hold Each Other Accountable
 - When One Person Messes Up the Whole Team Loses Points
 - Be Prepared to Evaluate Each Other at the End
 - You Will Score Every Member of Your Group on a 0-5 Scale from Least Helpful to Most Helpful
 - Clear Descriptions and Rubrics Are Available on Website so Read Them To Ensure You Get All Points

Closing



Disperse
and Make
Reasonable
Decisions