MDM4U Overall Project Outline - 2023

- You will have an overall topic, at least 3 research questions and at least 1 second order question.
- Your research questions will each relate to one of the data clusters below.

Data Clusters (Choose at least 3):

Probability	Venn Diagram	Counting Principles	2 Variable	1 Variable (mean)	1 Variable (median)	Distribution
• Pie Chart • Histogram • Calculate Theoretical Probability • AND formula • OR formula • NOT formula • COUNTIF formula • IF formula • SUM formula	• 2 Bubble Venn diagram • 3 Bubble Venn diagram • Conditional probability • AND formula • OR formula • NOT formula • COUNTIF formula • IF formula • SUM formula	• Permutations • Combinations • Counting Principles • ^ calculate used • FACT formula • PERMUT formula • COMBIN formula • Probability calculated	• Line of Best Fit on Scatterplot • Correlation strength • Slope formula • Intercept Formula • Equation • Correlation Coefficient • Coeff. of Determination	• Histogram created • STVDEV.P formula • Mean formula • Countif formula • Norm.dist formula u • P(x>value)	• Box and Whisker • Comparative Box and Whisker (2 on one graph) • IQR Calculated • Median formula • QUARTILE for Q1 • QUARTILE for Q3 • Min • Max	• Heat Maps • Hypergeometric Functions • Simulation

Rubric for each cluster (based on Data source):

R	1	2	3	4	4+
• Find a **graph**	• Relate graph to research question.	• Find sample size and PPDAC data.	• Analyze quality of PPDAC data.	• High quality analysis and conclusions, building thesis.	• Exceptionally high-quality presentation
• Create own **survey**	• Survey gets NUMBERS.	• Survey in correct style.	• Data entered in Excel. • Make graph from Data yourself. • Calculate related statistics yourself.	• Note sample size and PPDAC data. • Relate findings to research question.	• High quality analysis and conclusions, building thesis.
• Find **dataset**	• Make graph yourself in Excel from valid data.	• Calculate related statistics yourself.	• Relate graph/stat to research question.	• Find sample size and PPDAC data.	• Analyze quality of PPDAC data. • High quality analysis and conclusions, building thesis.