Appendix T3
Project Scoring Rubrics

Several examples of scoring guides (rubrics) are provided for each project. You may wish to use these as a model to create your own rubric.

Scoring Rubrics for Linear Regression Projects

Linear Regression Explicit Scoring Rubric

	Unsatisfactory	Satisfactory	Excellent	*Total*	
Category	**0 – 3 Pts**	**4 Pts**	**5 Pts**	**Possible**	**Earned**
Project Plan	Incomplete or missing project plan or approval not obtained.	Approval obtained on project plan, but approval sheet missing from submitted report.	Approved project plan form, signed by instructor, is attached to project report.	5	
Report Format	Project report is not submitted as a formal paper OR Final report is written in Excel or other program without proper formatting	Project report is submitted as a formal paper, but with minor issues (e.g., poor or inconsistent formatting, not typed)	Project report is submitted as a formal paper in paragraph form with full sentences, and is typed and well formatted.	5	
Writing and Readability	Report is poorly organized and hard to follow; charts and tables not embedded in report; many writing errors, awkward sentences	Report is reasonably organized and readable with few writing errors; all charts and tables are embedded in report	Report is exceptionally well organized and well written, with all charts and tables embedded in report	5	
Originality and Initiative	Topic selected is not original; it has been studied frequently by other students.	An original research topic was selected for this project.	An original research topic was selected AND report demonstrates initiative in carrying the project out.	5	
Overview of Research	Research question and expected findings not stated clearly. Rationale not explained.	Two of the three criteria at right are satisfied.	Stated clearly: 1) Research question 2) Expected findings 3) Rationale	5	
Research Population Specified	Target population(s) of research project not defined, poorly defined, or incorrect	Reasonable target population(s) defined, but not fully appropriate	Target population(s) well defined and fully appropriate	5	
Definition of Variables	Research variables not adequately defined.	Research variables named, but details are lacking on how variables are measured or quantified	Research variables named; measurement and possible values of each variable are clearly defined	5	
Data Collection: Data Sources, Instruments, Measurement	Ineffective data collection procedures OR poor description of data collection procedures	Two of the three criteria at right are satisfied.	Data collection procedure explained fully, including 1) Source of data identified clearly (website address, etc.) 2) Sound measures taken to ensure accuracy of data 3) Copy of survey, description of measurement procedures, or other specific details provided	5	
Data Collection: Sampling	Ineffective sampling procedures OR poor description of sampling strategy	Two of the three criteria at right are satisfied.	1) Sampling strategy explained fully 2) Sound measures taken to avoid bias explained 3) Representative sample addressed adequately	5	
Descriptive Statistics: Research Variables	Descriptive statistics omitted or not given clearly for **each** research variable	A summary is given for **each** variable, but at least one summary is incomplete.	**Each** research variable is described fully, using mean, standard deviation, and 5-number summary.	5	
Data Representation: Charts/Graphs	Report does not use sufficient charts or graphs to display data.	Most charts and tables are present, but some are missing OR All charts are present but contain minor flaws.	**Each** research variable is represented with appropriate charts and tables.	5	

(continued on next page)

(continued from previous page)

Category	0 – 3 Pts	4 Pts	5 Pts	Possible	Earned
Data Representation: Raw Data	Raw data used in the study are not provided.	Raw data are given, but presentation is incomplete or disorganized.	All raw data are included in table(s) in an appendix	5	
Statistical Analysis: Scatter Plot	Scatter plot missing, incorrect, not adequately labeled, or poorly illustrated	Three of the four criteria at right are satisfied	1) Scatter plot present and correct 2) Plot is well illustrated, scaled, and readable 3) Axes are well labeled 4) Shape of scatter plot is discussed	10	
Statistical Analysis: Correlation	Correlation coefficient r not reported or incorrect Correlation not explained adequately and significance not reported	Three of the four criteria at right are satisfied	Correctly reported: 1) Correlation coefficient *r* 2) Meaning of the correlation 3) Significance of correlation 4) Significance level	5	
Statistical Analysis: Significance	Significance of correlation is not addressed correctly	Significance of correlation and significance level are both reported correctly	Criteria at left are satisfied AND null and alternative hypotheses for significance test are stated correctly in mathematical terms	5	
Statistical Analysis: Regression Line	Regression line missing, incorrect, or poorly illustrated Equation of regression line not reported Regression equation not explained adequately	Regression line is present and correct; regression equation is reported and is correct	Regression line and equation are both correct and a prediction example is used to demonstrate the regression equation	5	
Statistical Analysis: Slope	Slope of regression line is not reported correctly No correct interpretation is given of slope	Slope is reported correctly and interpretation is partially correct	Slope is reported and interpreted accurately	5	
Statistical Analysis: R^2	R^2 is not reported correctly or no correct interpretation of R^2	R^2 is reported correctly and interpretation is partially correct	R^2 is reported and interpreted accurately	5	
Conclusion and Discussion	Implications of results not discussed; no attempt to explain findings. Report draws unwarranted conclusions or uses inappropriately certain language (e.g., "we proved", "our hypothesis is true")	Adequate discussion of results and their practical implications; reasonable explanation of findings offered; no unwarranted conclusions.	Discussion of results is insightful; adds meaning and significance to the report; no unwarranted conclusions.	5	

Linear Regression Scoring Rubric with Formal Proposals and Presentation

Grading Rubric					
	Below Standard	**Collegiate Quality**	**Flawless Excellence**	***Total***	
Category	**0 – 3 Pts**	**4 Pts**	**5 Pts**	**Possible**	**Earned**
Preliminary Proposal [5]					
Content of Proposal	Items in preliminary plan not addressed or significantly flawed	All items in preliminary plan addressed adequately	All items in preliminary plan thoroughly addressed and extremely well thought out	5	
Full Proposal [15]					
Content of Proposal	Items in proposal outline not addressed or significantly flawed	All items in proposal outline addressed adequately	All items in proposal outline thoroughly addressed and extremely well thought out	5	
IRB Form	IRB form not submitted or incomplete	IRB form complete but submitted late	IRB form complete and submitted on time	10	
Overall Project Implementation and Report [60]					
Introduction and Overview of Research	No statement of research question, variables not defined, hypothesis not stated or explained.	Research question, variables, and hypothesis explained adequately.	Research question, variables, and hypothesis explained exceptionally well and with relevance.	5	
Data Collection	Poor design, description, or implementation of survey design or sampling methods	Good design, description, execution of survey design and sampling methods	Exceptional design, description, & execution of survey/sampling	10	
Statistical Analysis: All Variables	No descriptive statistics provided for demographic and research variables	Basic descriptive statistics provided for all variables (5 number summary, mean, standard deviation, etc.)	Thorough analysis of each research variable with appropriate graphs and discussion	10	
Scatterplot and Regression Line	Scatterplot and/or regression line missing and/or incorrect	Scatterplot and regression line present and correct	Scatterplot and regression line are well presented and illustrate results superbly	5	
Statistical Analysis: Correlation and Regression	Scatterplot, *r*, or line of best fit not explained correctly	Scatterplot, *r*, line of best fit explained accurately	R^2 and prediction equation example also explained	10	
Conclusions	Report demonstrates no real-world understanding of the statistical results; no adequate explanation of findings	Report demonstrates basic understanding of results and makes reasonable attempt to explain findings	Report demonstrates thorough understanding of results and offers insightful explanation of findings	10	
Organization & Readability	Report is poorly organized or has many spelling/grammar errors, awkward sentences	Report is reasonably organized with few writing errors and generally readable	Report is exceptionally well organized and well written	5	
Technology	Failed to complete or submit all files (Word, PPT, Excel)	Adequate use and submission of Word, PPT, and Excel files	Exceptional PPT and XLS files submitted; good use of all appropriate technology	5	
Presentation [20]					
Overview, Clarity, Poise & Timeliness	Did not explain hypothesis or real world context of results; Spoke hesitantly, lacked poise or did not finish in time allotted	Adequately described hypothesis and real world context of results; Well-spoken, poised and within time allotted	Explained hypothesis and real world context of results well and with relevance; Polished and professional presentation	5	
Survey & Sampling	Did not explain survey/sampling design, or did not address representative sample	Lucid discussion of survey/sampling design and representative sample	Exemplary treatment of sampling, survey design, and implementation	5	
Regression Analysis	Failed to explain scatter-plot, *r* or line of best fit correctly	Explained scatter-plot, *r* and line of best fit accurately	In addition, explained R^2 and an example with prediction equation	5	
Technical	Trouble with PPT file or graphics, distracting colors or sounds, lacked coordination with speaker	Good PPT slides, nice graphics and layout, good teamwork with speaker	Beautiful PPT colors, themes, graphics, layout, teamwork—a pleasant and seamless visual experience	5	

Linear Regression Scoring Rubric with Presentation

Grading Rubric					
	Below Standard	**Collegiate Quality**	**Flawless Excellence**		
Category	**1 Pt**	**3 Pts**	**5 Pts**	**Total Possible**	**Total Earned**
Presentation					
Clarity, Poise & Timeliness	Spoke hesitantly, lacked poise or did not finish in time allotted	Well-spoken, poised and within time allotted	Polished, poised, timely and professional—adds to class learning of statistics	5	
Technology	Trouble with PPT file or graphics, distracting colors or sounds, lacked coordination with speaker	Good PPT slides, nice graphics and layout, good teamwork with speaker	Beautiful PPT colors, themes, graphics, layout, teamwork—a pleasant and seamless visual experience	5	
Survey & Sampling	Did not explain survey/sampling design, or did not address representative sample	Lucid discussion of survey/sampling design and representative sample	Added to class learning of statistics with strong exposition of sampling and survey design and implementation	5	
Regression Analysis	Failed to explain scatter-plot, *r* or line of best fit correctly	Explained scatter-plot, *r* and line of best fit accurately	In addition, explained R^2 and an example with prediction equation	5	
Overview of Research	Failed to describe hypothesis or real world context of results	Adequately described hypothesis and real world context of results	Themed presentation complete with humor, description of hypothesis and contextual analysis	5	
Overall Project Implementation					
Survey & Sampling	Poorly designed, ill-described and awkwardly executed	Reasonable design, solid description and good execution	Exceptional design, description and implementation	5	
Statistical Analysis	Failed to explain scatter-plot, *r* or line of best fit correctly	Explained scatter-plot, *r* and line of best fit accurately	In addition, explained R^2 and an example with prediction equation	5	
Demonstration of Learning	No additional understanding demonstrated	Clearly learned about real-world research	Deepened understanding both of statistics and subject studied	5	
Reflection Essay	Lacking intro/conclusion, theme, anecdotes or good grammar	Readable, thematic with solid grammar	Inspired essay: thematic, poignant, perfectly written prose	5	
Understanding of Survey Research and Methods					
Teamwork	Failed to communicate & work together	Worked together & completed project reasonably	Strong teamwork and commitment to excellence demonstrated	5	
Use of Templates	Incomplete, hard to read and/or in multiple files	Complete and in a single file	Complete, single file with header and uniform formatting	5	
Readability	Many grammar errors and/or awkward sentences	Few grammar errors and generally readable	Beautifully written prose: good sentence structure and spelling	5	
Technology	Failure to complete PPT, DOC or XLS files	Adequate use of PPT, XLS, DOC files and web-based materials	Sterling PPT presentation slides, solid graphics and exceptional numerics in XLS files	5	
Extra Mile	No additional effort or creativity demonstrated	Some added effort or additional data collection or analysis	Additional regressions, larger sample, obvious additional thoughtfulness and work.	5	

Scoring Rubric for Presentation Only (Linear Regression)

Linear Regression Presentation Scoring Guide					
	Below Standard	**Collegiate Quality**	**Outstanding**	***Total***	
Category	**0 – 5 Pts**	**6 – 8 Pts**	**9 – 10 Pts**	**Possible**	**Earned**
Overview of Research	Did not state research question AND did not explain real world context of results	Stated research question but did not explain real world context	Explained research question and real world context of results well and with relevance	10	
Variables	Did not name or define variables	Named variables or defined variables but did not do both clearly	Both named and defined variables clearly	10	
Population, Data Collection & Sampling	Did not address data collection process, target population, or sampling issues	Explained target population and data collection process but did not address issues of representative sampling or bias; lacked clarity or thoroughness	Clearly and thoroughly explained target population and data collection process, including steps taken to avoid bias and ensure representative sample	10	
Scatter Plot	Did not show a scatter plot, or scatter plot was incorrect	Showed scatter plot OR discussed correlation coefficient ***r*** but not both	Showed scatter plot and explained correlation coefficient ***r*** as part of discussion	10	
Correlation	Did not include a satisfactory discussion of correlation coefficient ***r***	Gave correct value of correlation coefficient ***r*** and interpreted correctly OR discussed significance, but not both	Gave correct value of correlation coefficient ***r***, interpreted correctly AND discussed statistical significance	10	
Regression Line	Did not show regression line with prediction equation	Showed regression line on graph and gave equation of line	Showed regression line on graph with prediction equation and demonstrated an example prediction using the equation	10	
Slope	Did not address slope of regression equation	Pointed out the value of the slope in the regression equation	Correctly explained the meaning of the slope in the regression equation	10	
R^2	Did not address **R^2**	Pointed out the value of **R^2** for the regression model	Correctly explained the meaning of **R^2** for the regression model	10	
Clarity, Poise, Timeliness	Presenter was not familiar with slides or material; poorly rehearsed	Familiar with material but spoke hesitantly, lacked poise, or exceeded allotted time	Presentation was polished and professional and speaker was completely familiar with slides and material; well rehearsed ***and completed within allotted time***	10	
Technical	PowerPoint slides were not available or contained multiple writing errors, distracting animations or sounds, or unreadable text (e.g., bad color schemes, fonts too small, crowded or confusing layout)	PowerPoint slides contained readable text in well-organized layout with minimal writing errors	Polished and professional looking slides: appropriate supporting charts and/or graphics, well-written text with appropriate mathematical symbols, easy to read, good layout and colors.	10	

Scoring Rubrics for Comparison Projects

Comparison Project Explicit Scoring Rubric "A" (Long)

	Unsatisfactory	Satisfactory	Excellent	*Total*	
Category	**0 – 3 Pts**	**4 Pts**	**5 Pts**	**Possible**	**Earned**
Project Plan	Incomplete or missing project plan or approval not obtained.	Approval obtained on project plan, but approval sheet missing from submitted report.	Approved project plan form, signed by instructor, is attached to project report.	5	
Report Format	Project report is not submitted as a formal paper OR Final report is written in Excel or other program with no paragraph formatting	Project report is submitted as a formal paper, but with minor issues (e.g., poor or inconsistent formatting, not typed)	Project report is submitted as a formal paper in paragraph form with full sentences, and is typed and well formatted.	5	
Writing and Readability	Report is poorly organized and hard to follow; charts and tables not embedded in report; many writing errors, awkward sentences	Report is reasonably organized and readable with few writing errors; all charts and tables are embedded in report	Report is exceptionally well organized and well written, with all charts and tables embedded in report	5	
Originality and Initiative	Topic selected is not original; it has been studied frequently by other students.	An original research topic was selected for this project.	An original research topic was selected AND report demonstrates initiative in carrying the project out.	5	
Overview of Research	Research question and expected findings not stated clearly. Rationale not explained.	Two of the three criteria at right are satisfied.	Stated clearly: 1) Research question 2) Expected findings 3) Rationale	5	
Research Population Specified	Target population(s) of research project not defined, poorly defined, or incorrect	Reasonable target population(s) defined, but not fully appropriate	Target population(s) well defined and fully appropriate	5	
Definition of Variables	Research variable not adequately defined.	Research variable named, but details are lacking on how variable is measured or quantified	Research variable named; measurement and possible values of variable are clearly defined	5	
Data Collection: Data Sources, Instruments, Measurement	Ineffective data collection procedures OR poor description of data collection procedures	Two of the three criteria at right are satisfied.	Data collection procedure explained fully, including 1) Source of data identified clearly (website address, etc.) 2) Sound measures taken to ensure accuracy of data 3) Copy of survey, description of measurement procedures, or other specific data collection details provided	5	
Data Collection: Sampling	Ineffective sampling procedures OR poor description of sampling strategy	Two of the three criteria at right are satisfied.	1) Sampling strategy explained fully 2) Sound measures taken to avoid bias explained 3) Representative sample addressed adequately	5	
Descriptive Statistics: Research Variable	Descriptive statistics for research variables omitted or not given clearly for **each** data set	A summary of the research variable is given for **each** data set, but at least one summary is incomplete.	For **each** data set, research variable is described fully, using mean, standard deviation, and 5-number summary.	5	
Data Representation: Charts/Graphs	Report does not use sufficient charts or graphs to display data.	Most charts and tables are present, but some are missing OR All charts are present but contain minor flaws.	All research variables are represented with appropriate charts and tables for **each** data set.	10	

(continued on next page)

(continued from previous page)

Category	0 – 3 Pts	4 Pts	5 Pts	Possible	Earned
Data Representation: Raw Data	Raw data used in the study are not provided.	Raw data are given, but presentation is incomplete or disorganized.	All raw data are included in table(s) in an appendix	5	
Hypotheses	Null and alternative hypotheses not stated in mathematical terms or stated incorrectly	Null and alternative hypotheses stated correctly in mathematical terms.	Null and alternative hypotheses stated correctly in words AND in mathematical terms.	10	
Statistical Analysis	Inappropriate statistical test conducted OR statistical test not conducted, reported or explained correctly	Correct test is conducted AND two of the three criteria at right are met.	Correct test is conducted and 1) explanation of all details of test is thorough, articulate, and precise 2) accurate statistic reported 3) accurate p-value reported	10	
Interpretation of Results	p-values not interpreted correctly or consistently	Results are interpreted correctly and consistently with respect to: 1) significance 2) rejection of null hypothesis 3) real world conclusion about subject being studied	Interpretation of p-values satisfies all criteria at left AND includes clear discussion of significance levels	10	
Conclusion and Discussion	Implications of results not discussed; no attempt to explain findings. Report draws unwarranted conclusions or uses inappropriately certain language (e.g., "we proved", "our hypothesis is true")	Adequate discussion of results and their practical implications; reasonable explanation of findings offered; no unwarranted conclusions.	Discussion of results is insightful; adds meaning and significance to the report; no unwarranted conclusions.	5	

Comparison Project Explicit Scoring Rubric "B" (Abbreviated)

	Below Standard	Collegiate Quality	Flawless Excellence	*Total*	
Category	**0 – 3 Pts**	**4 Pts**	**5 Pts**	**Possible**	**Earned**
Project Plan	No project plan or Incomplete project plan	Project plan completed and submitted, but final approval not obtained	Project plan completed, submitted, and approved.	5	
Overview of Research	Research question not stated clearly Hypothesis not stated Rationale not explained	Two of the three criteria at right are satisfied.	1) Research question stated clearly 2) Hypothesis stated clearly 3) Rationale explained clearly	5	
Research Population Specified	Target population(s) of research project not defined or poorly defined	Target population(s) defined, but not completely appropriate	Target population(s) well defined and appropriate	5	
Definition of Variables	Research variable not adequately defined.	Research variable named, but details are lacking on how variable is measured	Research variable named; measurement and possible values are clearly defined	10	
Data Collection	Poor design, description, or implementation	Two of the three criteria at right are satisfied.	1) Data collection procedure explained fully 2) Sound measures taken to avoid bias explained 3) Representative sample addressed adequately	10	
Hypotheses	Null and alternative hypotheses not stated or incorrect	Null and alternative hypotheses stated correctly in words OR in mathematical terms.	Null and alternative hypotheses stated correctly in words AND in mathematical terms.	10	
Descriptive Statistics: Research Variable	Descriptive statistics for variables omitted or not given clearly for **each** sample	Mean and standard deviation of each variable is given clearly for **each** sample	For **each** sample, research variable is described thoroughly with mean, standard deviation, and 5-number summary.	10	
Data Representation	Report does not use sufficient charts or graphs to display data.	All variables are represented with appropriate tables and charts for **each** sample.	1) All variables represented with appropriate charts and tables for **each** sample. 2) All raw data is included in table(s) in an appendix	10	
Statistical Analysis: Selected Test	Inappropriate statistical tests conducted OR statistical tests not explained well	Appropriate statistical test is conducted correctly and explained adequately	Correct test is conducted and explanation of all details of test is thorough, articulate, and precise	5	
Statistical Analysis: Execution	Statistical test not conducted or reported correctly	Three of the four criteria at right are satisfied	For required test: 1) test statistic is reported 2) test statistic is accurate 3) p value is reported 4) p value is accurate	10	
Interpretation of Results	p-values not interpreted correctly or consistently	Results are interpreted correctly and consistently with respect to: 1) significance 2) rejection of null hypothesis 3) real world conclusion about subject being studied	Interpretation of p-values satisfies all criteria at left AND includes clear discussion of significance levels	10	
Conclusion and Discussion	Implications of results not discussed; no attempt to explain findings. Report draws unwarranted conclusions or uses inappropriately certain language (e.g., "we proved", "our hypothesis is true")	Adequate discussion of results and their practical implications; reasonable explanation of findings offered; no unwarranted conclusions.	Discussion of results is insightful; adds meaning and significance to the report; no unwarranted conclusions.	5	
Organization and Readability	Report is poorly organized and hard to follow; charts and tables not embedded in report; many writing errors, awkward sentences	Report is reasonably organized and readable with few writing errors; charts and tables embedded in report	Report is exceptionally well organized and well written, with all charts and tables embedded in report	5	

Comparison Project Scoring Rubric with Formal Proposal

Grading Rubric					
	Below Standard	**Collegiate Quality**	**Flawless Excellence**	***Total***	
Category	**1 – 3 Pts**	**4 Pts**	**5 Pts**	**Possible**	**Earned**
Proposal [10]					
Content of Proposal	Items in preliminary plan not addressed or significantly flawed	All items in preliminary plan addressed adequately	All items in preliminary plan thoroughly addressed and extremely well thought out	5	
Readability	Many spelling/grammar errors, awkward, unclear, or messy writing	Few writing errors and generally readable	Proposal is well written, clear, and neat	5	
Project Implementation and Report [90]					
Introduction and Overview of Research	No statement of research question, variables not defined, project rationale not stated or explained.	Research question, variables, and rationale explained adequately.	Research question, variables, and rationale explained exceptionally well and with relevance.	10	
Data Collection	Poor design, description, or implementation	Good design, description, execution	Exceptional design, description, & execution	10	
Hypotheses	Null and alternative hypotheses not stated or incorrect	Null and alternative hypotheses stated, but not in mathematical terms	Null and alternative hypotheses both stated correctly in mathematical terms.	10	
Descriptive Statistics	Descriptive statistics omitted or not given clearly	Adequate overview of descriptive statistics	Thorough, clear, concise overview of descriptive statistics	10	
Statistical Analysis	Inappropriate statistical tests conducted or statistical tests not conducted or explained correctly	Appropriate statistical tests are conducted correctly and explained adequately	Explanation of statistical tests is thorough, articulate, and precise	10	
Interpretation of Results	P-values not computed correctly or not interpreted correctly	P-values computed correctly and interpreted correctly with respect to hypothesis	Interpretation of P-values includes clear discussion of significance level	10	
Conclusion and Discussion	Implications of results not discussed; no attempt to explain findings	Adequate discussion of results and their practical implications; reasonable explanation of findings offered	Discussion of results is insightful; adds meaning and significance to the report	10	
Thoroughness	Not enough statistical tests conducted or details missing for one or more analyses	All expected analyses present and most details of each analysis provided	All expected analyses present and all details of each analysis provided	10	
Readability & Organization	Many spelling/grammar errors, awkward sentences; Report is poorly organized or hard to follow	Few writing errors and generally readable	Report is exceptionally well written and well organized	10	

Comparison Project Alternative Scoring Rubric (Holistic)

Example characteristics of various scores are given for each category. The list is not exhaustive.

Project Overview			
Initiative	***Total Points Possible***		**10**
	Collected & analyzed extra data, ran extra tests, work shows extra effort	9	
	Collected & analyzed appropriate data & run required tests	6	
	Collected & analyzed insufficient data, did not run all appropriate tests	3	
Understanding of Statistics	***Total Points Possible***		**10**
	Full understanding of statistics, no mistakes	9	
	Good understanding of statistics, some mistakes	6	
	Inadequate understanding of statistics	3	
Project Write-Up Components			
Introduction	***Total Points Possible***		**5**
	Interesting, poignant, good "hook" for reader, explains research question in interesting way and gives relevant statistical information	4	
	Pedestrian, information only, lack of style, research question not well-explained and relevant statistical information not present	2	
Data Collection	***Total Points Possible***		**5**
	Well-designed, adequately discusses representative sample and sampling issues, targets a specific and well-chosen campus group or groups	4	
	Sample displays poor choices, not adequately representative or specific	2	
Results	***Total Points Possible***		**10**
	Flawless use of hypothesis symbols and nomenclature, understanding of what statistical test should be used and why, discussion of Type I / Type II error	9	
	Small difficulties with symbols or nomenclature, good understanding of which tests to use or why to use them	6	
	Major difficulties with symbols or nomenclature, lack of understanding of which tests to use or why to use them	3	
Findings	***Total Points Possible***		**5**
	Good explanation of p-value and research results connecting the statistics to the real world, solid understanding of level of significance and its relation to p-value	4	
	Lack of understanding of p-values or other results, or lack of understanding how statistical results relate to research question, no discussion of level of significance	2	
Conclusion	***Total Points Possible***		**5**
	Beautiful summation and reflection along with some insight into why the results you are reporting occurred, good discussion of learning	4	
	Pedestrian summary and lack of reflection demonstrating hasty preparation or lack of thinking deeply about project	2	
Write-Up Overview			
Style	***Total Points Possible***		**10**
	Flawless composition, easily read, easily understood, smooth flow, strong stylistic choices made throughout write-up	9	
	Mediocre composition and style	6	
	Very poor composition and style, difficult to read	3	
Accuracy	***Total Points Possible***		**5**
	Flawless grammar, fewer than 2 spelling or grammar mistakes	4	
	10+ grammar or spelling errors, poor use of statistical symbols	2	

Scoring Rubric for Presentation Only (Comparison Project)

Comparison Project Presentation Scoring Guide					
	Below Standard	**Collegiate Quality**	**Outstanding**	***Total***	
Category	**0 – 5 Pts**	**6 – 8 Pts**	**9 – 10 Pts**	**Possible**	**Earned**
Overview of Research	Did not state research question AND did not explain real world context of results	Stated research question but did not explain real world context	Explained research question and real world context of results well and with relevance	10	
Variables	Did not name or define variables	Named variables or defined variables but did not do both clearly	Both named and defined variables clearly	10	
Population, Data Collection & Sampling	Did not address data collection process, target population, or sampling issues	Explained target population and data collection process but did not address issues of representative sampling or bias; lacked clarity or thoroughness	Clearly and thoroughly explained target population and data collection process, including steps taken to avoid bias and ensure representative sample	10	
Statistical Test	Did not identify the statistical test that was used	Identified statistical test, but no details (number and direction of tails)	Identified statistical test, and gave appropriate details (number and direction of tails)	10	
Hypotheses	Null and alternative hypotheses not stated or stated incorrectly	Null and alternative hypotheses stated correctly in words or mathematical symbols, but not both	Null and alternative hypotheses stated correctly, in both words and mathematical symbols	10	
Descriptive Statistics	Did not give correct sample mean(s), standard deviations	Gave some descriptive statistics, but omitted some or identified some incorrectly	Gave all appropriate sample means and standard deviations for data collected, and presented with correct terminology	10	
Result of Test	Did not give results of statistical test, or gave incorrect results	Correctly gave either test statistic or p-value, but not both	Gave correct test statistic and p-value for the test	10	
Interpretation	Result not interpreted or interpreted incorrectly	Result interpreted correctly, but either: 1) inadequate discussion of significance level OR 2) inadequate context for conclusion or inappropriate terms used (e.g., "proved")	Result interpreted correctly, with a valid discussion of significance level AND appropriate contextual conclusion	10	
Clarity, Poise, Timeliness	Presenter was not familiar with slides or material; poorly rehearsed	Familiar with material but spoke hesitantly, lacked poise, or exceeded allotted time	Presentation was polished and professional and speaker was completely familiar with slides and material; well rehearsed ***and completed within allotted time***	10	
Technical	PowerPoint slides were not available or contained multiple writing errors, distracting animations or sounds, or unreadable text (e.g., bad color schemes, fonts too small, crowded or confusing layout)	PowerPoint slides contained readable text in well-organized layout with minimal writing errors	Polished and professional looking slides: appropriate supporting charts and/or graphics, well-written text with appropriate mathematical symbols, easy to read, good layout and colors.	10	