

Statistics Writing Assignment

Description

Objective The purpose of this assignment is to give students practice and experience in presenting statistical ideas in written form.

The Task Students will choose from one of the following statistical methods to focus the paper on: 1) *Hypothesis Testing*; 2) *Difference of Two Group Means*; 3) *ANOVA*; 4) *Linear Regression*; or, 5) *Chi Square*. Students will decide on paper topic and gather data that is appropriate for the statistical method of choice. This is not a group assignment. Each student is responsible for individually securing his/her own data and writing a report analyzing it. The professor must approve your research idea before you begin writing the paper.

The Paper The final paper should be between 5–6 pages in length in no more than 12 pitch font.

Guidelines Students will follow basic paper-writing guidelines stated on page *xvi* in the class text, *Elementary Statistics* (4th ed.). The structure of the paper should be organized using the following five headings: i) background statement; ii) design and procedures; iii) results; iv) analysis and discussion; and v) conclusions and recommendations.

Support Students are strongly encouraged to visit the Writing Studio on campus to help steer them through the writing process. The Studio is located in Room 612 in the Feldman Center. Hours are as follows:

M – F	9a – 9p
Saturday	1p – 4p
Sunday	5p – 9p

Phone contact to the Studio is 212.217.3060. Web reference for the Studio is <http://www.fitnyc.edu/5770.asp>.

Key Dates

Mar 15 – Apr 21 Brainstorm with professor and settle on topic to be researched (office-hour meetings or email)

by Apr 21 Submit research description to professor via email (no more than 3 sentences). What will you be investigating?

Apr 21 – May 5 Work with Writing Studio in developing the paper.

by May 5 Submit final version of the statistics paper to professor on or before this date (final deadline: 5/5, 5pm).

Plagiarism Plagiarism is using another author's ideas and thoughts as your own. Students who plagiarize will receive a grade of zero (0) on the paper.

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A Sample of Previous Paper Topics

Hypothesis Testing

1. Do Uber Drivers in NYC Earn at Least \$19 Per Hour as Claimed?
2. Does the French Language Really Contribute to Approximately 29% of Modern English Words?
3. Do Snickers Really Weigh as Much as is Claimed?

Comparing the Differences Between Two Group Means

1. Are Airline Ticket Prices Cheaper When You Return on Mondays as Opposed to Sundays?
2. Does It Take Longer to Get to FIT's Campus Than It Does to Return Home?
3. Are Broadway Ticket Prices Really Different When Purchased Online as Opposed to at the Theater Itself?

ANOVA

1. Are Starbucks Prices On Campus Virtually the Same as Those in Other Chains in the City?
2. Are Manicure/Pedicure Prices the Same in Different NYC Neighborhoods?
3. Is Tuition Costs Really Cheaper for Colleges In State as Opposed to those in Other Areas Out of State?

Simple Linear Regression

1. Is There a Correlation Between a Magazine's Instagram Following and the Number of Posts on the Magazine's Account?
2. What is the Linkage Between the Number of Grammys an Artist Has and the Amount of Albums That the Same Artist Sells?
3. What Association is There Between the Free Throw Percentage Per Game of the Miami Heat and the Number of Points Per Game They Win By?

Chi Square

1. Is There a Difference by Gender in Customer Preference at Walmart Stores Regarding The Two Types of Checkout Lines (10 Items or Less vs. Regular Checkout Line)
2. How Do FIT Students Feel By Classification When It Comes to Campus Security?
3. Will Students Across Age Groups Continue to Purchase Air Jordan Shoes Even if There is a Significant Increase in Price?

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Grading Rubric

1. TOPIC APPROVAL

(Does the instructor approve the topic before student begins work?)

40	20	0
Topic is approved by the instructor by the stated deadline	Topic is approved by the instructor after the stated deadline	Topic is not approved but student still submits a paper

2. STRUCTURE

(Is the paper logically organized throughout? Does it begin with background and work its way to conclusions and recommendations?)

10	8	6	4	2
Very well organized from start to finish with section headings	Organized from start to finish with no section headings	Some basic organization detected	Fairly organized but almost non-existent throughout paper	No structure detected; haphazard organization

3. METHODS

(Are methods used in the paper the ones that were presented in class? Are the right explanations given for why they were chosen? Are they used correctly?)

10	8	6	4	2
Methods presented in the class are used correctly in the paper. Right explanations are given for why they are used.	Methods presented in the class are used incorrectly in the paper. Wrong reasons are given for why they are used.	Methods other than those presented in the class are used in the paper. Reasons for their use may or may not be given.	Wrong methods are chosen and used incorrectly. The reason for their use may or may not be given.	Statistical methods are not used in the paper.

4. SOFTWARE AND COMPUTING

(Is the software used adequately when applying the statistical method for the paper? Are the results properly weaved into the narrative of the paper? Are the results labeled appropriately as Figure # and referenced in the body of the paper?)

10	8	6	4	2
Software is used correctly to show method. Results are copied and pasted into Word doc, labeled as a Figure number, and referenced in body.	Software is used correctly to show method. Results are copied and pasted into Word doc but are not labeled as a Figure number or referenced in body.	Software is used somewhat adequately. Some errors exist perhaps because of incorrect data entry. Maybe some labeling or references in body exist.	Software is not used. Mostly all calculations are done by hand (not counting 2 group means comparison). May or may not label or reference in body.	No software is used to process data (not counting 2 group means comparison).

5. DIAGRAMS

10	6	2
Diagrams support the case that is presented in the paper. Test statistics and cutoffs are shown correctly (or p-values and alphas). The diagram has a Figure Number and is referenced in the body.	Diagrams are presented in the paper. Either the wrong diagram is used or the right one is used with incorrect information on it. It may or may not be labeled.	No diagrams are included in the paper.

6. GRAMMAR AND STYLE

10	6	2
There are very few errors concerning grammar. The paper has a nice flow to it and contains no contractions (it's, they're, I'm, etc.). There is no handwriting in the body of the paper.	There are quite a few grammatical errors in the paper (several misspellings, faulty subject-verb agreement). May contain some contractions. May be some handwriting in the body of the paper.	The grammar in the paper is terrible. There are numerous run-on sentences and/or sentence fragments. There are several contractions in the paper. Some handwriting is in body of the paper.

7. PRESENTATION OF DATA

10	6	2
The data is presented in the body of the paper in the appropriate section. It is typed and labeled as a Table number and is referenced in the body of the paper by the same label.	The data is presented in the paper but is handwritten. It may appear in the wrong section in the paper. It is not labeled as a Table number and is not referenced in the body of the paper by the same label.	The data is not shown in the paper anywhere.