STATISTICS 36-203 SAMPLING, SURVEYS, AND SOCIETY

SAMPLE SURVEY PROJECT INSTRUCTIONS AND RULES

Spring 2000

Outline of Group Sample Survey Project

(1) Initial Formation of Project Teams:	Lecture #5, Tuesday February 1.
(2) Assignment of Project Teams:	Lecture #7, Tuesday February 8.
(3) Potential Topics and Team Working Agreement Assignment:	Lecture #9, Tuesday February 9.
(4) Written Proposal:	Lecture #17, Tuesday, March 14.
(5) Oral Presentations:	Lectures #27 to #30.
(6) Final Report:	Friday, May 7, 5 p.m.

1 GETTING STARTED ON A PROJECT

1.1 CREATING A TEAM

Create a team of four individuals. You have until Lecture #5 to do this by yourself, and report the team members to me. If you do not do so, I will assign you to a team on Lecture #7 (Tuesday, February 8).

How well one's team works together is often one of the more satisfying or dissatisfying aspects of the project. Here are some ideas and questions which some students in similar settings have found helpful in clarifying their expectations of each other as they were forming their teams:

- Make sure that there are times in the week when you can get together as a team.
- What do you expect each other to contribute?
- How will you contact each other about meetings?
- How much advance notice will you give before meetings?
- Be specific. Write down your agreements. The "Team Working Agreement" assignment will give you a chance to earn some points for doing this.

- Identify a team "contact author." This person submits works, receives the graded work, and is my contact if I have questions about your project.

1.2 THE LAZY PLAYER

Inevitably, there will be a few cases that one person in a group does little or no work, but yet wants to claim a full grade. I consider this cheating. To try to cut down on the problem, there are two places in the semester where I will ask you to evaluate the work of the other members in the group, and in particular whether one member is not doing his or her fair share.

This evaluation is intended to be confidential and should be provided to me in a sealed envelope, with your name written on it and your signature.

1.3 THE QUESTION

Make sure that the question your team chooses to investigate has these properties:

A. It is of interest to you.

B. This question can be answered using sample survey methods discussed in this course.

C. The entire project can be done in approximately 80 total hours for the team.

1.4 TYPING OF PROJECT WORK

Follow the typing instructions for all work (Potential Topics and Team Work Agreement Assignment, Proposal, and Final Report):

A. All work is to be typed on 8 1/2" $\times$ 11" paper using at least an 11 point type font.

B. You are expected to do your data analyses and to prepare tables and graphs by computer. All relevant computer output is to be labeled, e.g., as "Figure 1", "Figure 2", etc. and referred to it in the text by label. Similarly for tables. All figures and tables have headings. Your work will typically mix text, computer output, tables, figures, etc.

C. **Organize your answers in numbered and labeled sections It is critical that you do this so that your work can be accurately graded.**

D. Staple your pages together. Paper-clipped, folded or loose papers run the risk of being lost or misplaced.

E. Number your pages.

F. Include the names of all team member on the front page.

2 YOUR RESPONSIBILITIES

It is your responsibility to contact your other project team members and be available to meet with them. Students may try to avoid working (while still claiming full credit) by citing conflicts such as extra-curricular activities, work in other classes, job searches,etc. I want to give full credit only to those who contribute as full project partners, and not to those who use such excuses as a way to avoid taking on their burden in a project, but I will need your assistance.

3 POTENTIAL TOPICS ASSIGNMENT (MAXIMUM OF 3 PAGES)

Due: Tuesday, February 9 - in class on Lecture #8

3.1 POTENTIAL TOPICS

Part of this assignment is to give you a chance to see if you can work together. Identify **two** survey projects that your team could actually implement over the course of the semester:

(1) An on-campus project. Examples might include:

- a survey of students regarding hours for the libraries
- a survey of academic departments to learn about their uses of Faculty Course Evaluations and other means of evaluating faculty teaching
- a survey of staff on their interest in —?

(2) An off-campus project. Examples might include:

- a survey of Carnegie Mellon neighbors to learn about attitudes towards the University, or the golf course, or some other topic
- a telephone survey of residents of Pittsburgh
- a mail survey of subscribers to a community newspaper

For each of projects (1) and (2), answer the following questions:

a. What question do you propose to study? Give me a brief answer that would have been understandable by my mother (who is not a statistician).

b. What population or populations will be sampled? This is the question many of you will miss.

c. What population(s) do you wish to make inferences about? How does it differ from the population in (b)?

d. How do you plan to carry out the survey (e.g., by telephone) and why?

e. What variables do you propose to measure?

f. For project (2), I want to see a sample (one page) questionnaire.

You must submit this assignment as a team, and it will be graded as such. Please label your report for each project according to the individual components, 5 for project (1) and 6 for project (2).

3.2 TEAM WORK AGREEMENT

(To be submitted with revision of potential topics assignment in class on Lecture #13, Tuesday, February 29)

At later stages of the project, I will be asking you as a group to evaluate the effort/time put in by the other project team members. Your grade will depend on whether the other project members basically agree that you were a full partner.

For this team work agreement assignment, I want you to think ahead to what each of you like to do. Examples of activities might include preparing a draft questionnaire, pretesting the questionnaire, conducting interviews, handling mail out–mail back, doing data analysis by computing, writing up the results, preparing a Powerpoint presentation, etc.

4 WRITTEN PROJECT PROPOSAL

Due: Tuesday, March 14 - in class on Lecture #17

4.1 PURPOSE OF THIS ASSIGNMENT

The purpose of this proposal is to convince me to approve your project and to approve your team as competent to do it. You can achieve both goals will be achieved by a clear, complete description of all aspects of the project.

4.2 PROPOSAL TABLE OF CONTENTS

Cover Page:	Signed original work statement (from the box below). (Put this page on the very front of your proposal, with no blank pages on top of it.)
Pages 1–3	**(a maximum of 3 pages)** Provide information on the questions to be studied, studied, the population(s) involved, and the statistical issues to be explored. A good place to begin is with answers to questions a through e from the potential projects assignment. If you are doing the project for a "client" tell me who he or she is and provide details on your assignments. [Make sure you first state and then answer the question so that it is clear what question you are in fact answering.]
Page 4 and on	1. Preliminary questionnaire 2. Verbatim script for interview (if appropriate). 3. Sampling process. 4. Data collection and analysis plans. 5. Proposed schedule including pilot testing of questionnaire.
Evaluation:	Each of you are to include a sealed envelope evaluating the effort of your fellow team members. I am particularly concerned to know whether someone has not been available, and if so their grade will be adjusted.

4.3 HUMAN SUBJECTS CLEARANCE

All survey research is subject to pre-approval by the university. There are special forms associated with this process and they **must be** submitted as part of this assignment. Usually it is helpful to include the draft questionnaire as part of the submission. Given the seriousness of this approval, I urge groups to prepare an early draft and share it with Professor Fienberg for comments before the actual proposal is due.

4.4 ORIGINAL WORK:

Students may discuss with each other, with possible clients, and with the instructor the selection of a project topic and various questions they encounter while doing the project proposed. The final choice of a project topic, resolution of difficult questions, interpretations, and composition of project documents are to be done only by team members. Whenever you draw upon the written work of others, that material should be properly referenced in your report.

SIGN THE FOLLOWING STATEMENT AND INCLUDE IT ON THE COVER PAGE OF YOUR PROPOSAL:

ORIGINAL WORK STATEMENT

Project Title: We the undersigned certify that the actual composition of this proposal was done by us and is original work.

	Signatures	Typed Names	Phones
Contact Author:	____________	____________	________
	____________	____________	________
	____________	____________	________
	____________	____________	________

4.5 SOME NOTES ABOUT GRADES FOR PROJECTS

The easiest projects typically will involve an on-campus survey of some of your fellow students, especially a subset who are easily accessible. The easiest mode of administration is by -mail, but followup and high response rates are often easier to achieve with other modes of interviewing, even though they require more time and effort. It seems to me not unfair to, in effect, give more credit for those of you who are willing to do a more complex and possibly difficult to implement type of project. I will specifically allow for this possibility by means of evaluating the proposal on the basis of thoroughness, including plans for non-response followup. I also give credit, however, for originality. Thus, a project which is really dull and boring but does hard statistics cannot be expected to get higher marks than a project which is easier statistically but involves a clever problem or one of some intrinsic interest.

4.6 INFERRING CAUSATION AND LURKING VARIABLES

Sample surveys are good at measuring things as they are, and only be used to measure causal effects in very selective circumstances. Many questions of interest that are explored using sample surveys nonetheless are related to causal questions. In almost any statistical problem of comparing two or more subpopulations, or where we are studying the "effects" of some variables on others, there will be *lurking variables*, i.e., variables which if not measured will cause a distortion of the results, especially when you are looking at relationships. I will mention a few of these in class. I expect that your project will consider and measure lurking variables that are especially relevant for your question(s) of interest.

4.7 THOROUGHNESS AND CREATIVITY

I will give a subjective evaluation of your proposal, based on two factors. First, is the idea really clever or of scientific interest, and second is whether you seem to have done a reasonably thorough job of things. I am hoping that this will induce you to think of a project which is both interesting and leaves scope for some statistical analysis. For example, if you state that you plan to compare GPA's of male and female students, you are being neither original nor thorough. For example, there are lurking variables (college and major), and there are also possible regression relationships (with SAT scores).

5 OTHER NOTES RELATING TO THE PROJECT

(1) I suggest that you spend approximately 80 hours as a team on this project. You may spend additional time if you are convinced that the benefits of spending additional hours on this project are greater than the costs.

(2) Keep a diary (e.g., in the form of a lab book, or an on-line document) which you regularly update during the project, recording expenditures of time and other resources, as well as any notable events which may influence the interpretation of your data analysis. Keep track of which team members attend each meeting. **Turn this diary in with your final report.** (It may be neatly handwritten.) Credit will be awarded for this effort.

(3) You will invest a certain amount of time, energy, money, and other resources in doing this project. As in the case with all investments, the amount of return you will receive on this project both now and later in your career depends on the amount you invest in it and the risk you take.

6 ORAL PRESENTATION OF PROJECTS

Scheduled for Tuesday, April 25 through Thursday, May 4. Each group will have from 30-40 minutes for it's presentation.

In the past, students have found that making the presentation using Powerpoint is quite effective and allows the group to cover more material. You may also wish to prepare a handout for the class with questionnaire materials and some of your analytical results.

7 WRITTEN FINAL REPORT

Due in class by the end of the final day of classes, Friday May 7, at 5:00 p.m.. Detailed instructions will follow along with a proposed grading scheme.