

# Statistics I, Fall 2012

## Project 2

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**Note.** As this is a project instead of homework, the expectation on your performance is higher than that for homework. As you will see, the difficulty of the tasks in this project is not very high (actually, you are the one that decided what to do). So what we really care about is (1) how you conduct a statistical study from scratch, (2) how you select a suitable topic and suitable methods, and (3) how you present your ideas and results. Besides of getting correct and insightful results, try your best to make your report and oral presentation good, which means precise, concise, pretty, and easy to read.

### 1 Teams

Please find your team number and your teammates in the sheet names “Teams” of the MS Excel file “StatFa12\_project2.xlsx”.

### 2 Tasks

In this project, each team will conduct a statistical study by setting up hypotheses, sampling, doing estimations, concluding on hypotheses, and delivering insights. In short, you need to apply what you have learned in this semester. The topic will be chosen by team members. While there is no restriction on the topic, it will be best that the topic is (1) relevant to our daily life and (2) can be understood easily by everyone in class. For example, it is probably not a very good idea to study Statistical Mechanics.

If you want to choose your own topic, you are welcome to discuss with me if you would like to make sure that the topic is fine. Alternatively, here I list four topics that I myself is interested. I believe they are also suitable as a topic for your project 2.

1. (Tuition raise) Should the tuition be raised? Who support it and who do not? Who pay the most tuition now? Among those who are able to pay their tuition, who want a tuition raise? What is an acceptable raise of tuition? Should the policy be different for public and private school?
2. (Mass media monopolization) How many people know the recent debates in mass media monopolization? What do people think? Who think it is fine and who do not? Where do people in Taiwan read or watch news from? From Internet, TV, or newspaper? Which newspaper is the most popular?
3. (Online shopping) How do people in Taiwan like online shopping? How much do they spend? How often do they do so? Is there a difference between teenagers and students? Is there a difference among students with different majors? Is there a difference between boys and girls?
4. (Warranty) How do people evaluate a warranty? How many people care about it? What is the amount of money that people will pay for a one-year warranty for a laptop? How about two-years? How about a TV? Do different brands results in different warranty benefits?

As this is a project, most details should be left for you to decide. However, you are more than welcome to discuss your ideas with me. You are allowed to work on of the four topics listed above. In general, after you listed your research questions and before you start to do sampling and analysis, it is a good idea to let me know your questions first so that I can provide my feedback.

### 3 Technical requirements

1. Limit your report to **twenty pages**, excluding the cover page. This means twenty single-sided sheets (not recommended) or ten double-sided sheets (recommended).
2. Submit a **hard copy** of your report into the instructor's mailbox by **6pm, January 4th, 2012**. Submissions after the due time or to a wrong place will not be accepted. For example, submitting your reports in class is not allowed.
3. Each team needs to do an oral presentation for around fifteen minutes. You may decide the number of speakers by yourself (as long as there is at least one). Speakers will get extra bonus. Speakers who present in (acceptable) English will get more extra bonus.
4. **All team members** must show up in class during the presentation of your team.<sup>1</sup> Otherwise, that team cannot present and **all team members** of that team will get **zero** point.

### 4 Grading policy

1. We will grade your project 2 from on the following four perspectives:
  - (a) Overall (30%): We expect you to choose an important topic, ask meaningful research questions that are relevant to your topic, adopt correct statistical methods and apply them in a right way, and obtain insightful results from your study.
  - (b) Report (25%): We expect your report to be well-organized. It should present your ideas, methods, and results clearly, precisely, and concisely.
  - (c) Oral presentation (30%): How good the presentation is will be judged by both students and the instructor. All students are expected to grade all presentations (one grade for one team). Grades inside the 15th and 85th percentiles will be averaged to become the grades for the presentation from students. The instructor will also grade presentations. Presenters can get bonus based on their performance and English speaking fluency.
  - (d) Peer review (15%): All students are expected to evaluate her/his teammates' contribution. Grades except the lowest and the highest will be averaged to become one's contribution grade.

Besides the bonus for presenters and the peer review grades, all team members get the same grades in other items.

2. Grades breakdown:

Item	Subitem	Percentage
Overall	Selection of topics and questions	10%
	Selection of methods	10%
	Correctness in applying the methods	5%
	Insights obtained from the study	5%
Report	Organization and clearness	25%
Oral presentation	Presentation skills: Students' perspective	15%
	Presentation skills: Instructor' perspective	15%
	Bonus for presenting	5%
	Bonus for presenting in English	5%
Peer review	One's contribution	15%

3. If your raw score is higher than 100, it will be treated as 100.

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<sup>1</sup>Unless one has completed a formal petition for be absent in class due to sickness, duty, etc.