

COURSE SYLLABUS

Course Description

This applied course teaches the design and analysis of sample surveys, and is intended for students in the fields of statistics, business, social sciences, health sciences, environmental studies, natural resource managements, or other majors that involve a heavy use of sampling. Topics covered in this course include the design of finite population sample surveys such as simple random, stratified, systematic, and multistage cluster sampling designs, sampling with probability proportional to size, ratio and regression estimators, and response versus non-response bias. This is not an introductory statistics course and this course assumes that students are familiar with the probability and statistical inference.

Course Materials

- *Elementary Survey Sampling* (6th Edition). Scheaffer, R., Mendenhall III, W., Ott, R.. (Duxbury Advanced Series Publishing, 2006) [REQUIRED]
- Any Statistical Programming Language or Software Package (SAS, JMP, Minitab, R, SPSS) [REQUIRED]

Contacting Your Professor

Office Hours: MTWRF 11:15-12:45 (Fridays and other times are by appointment)
Office Location: Hutcheson Hall, Room 417-C
Phone Number: Office: 540-231-1125, Cell: 815-501-7417 (use only in an emergency)
E-Mail Address: lemons@vt.edu
Teaching Asst: Liaosa Xu (Email: liaosax@vt.edu)

Course Material

The tentative schedule is to cover Chapters 1-10. If time permits, students will learn additional topics such as instrument construction, classical test theory, and item response analysis.

Course Grade

Grading will be based on the standard ten point, plus-minus, grading scale. The grading breakdown is as follows:

- | | |
|--|-----|
| • Group Projects & In-Class Assignments | 20% |
| • Homework Assignments | 25% |
| • Exams | 25% |
| • Final Project Presentation (12/14/09, 7:45am – 9:45am) | 30% |

Group Projects & In-Class Assignments

Students will be placed in groups to work on projects that will be presented during class lectures. Each student is required to contribute their efforts to complete the project. Additionally, students are responsible for attending lectures and participating in class discussions by answering questions proposed by the professor or asking questions to develop class discussion.

In-class assignments will be given in some lectures for a grade. Students are responsible for completing and submitting these assignments.

Homework Assignments

Homework assignment will be assigned and collected throughout the semester. Unexcused, late homework will not be accepted no matter the reason. When submitting homework assignments, problems must be submitted in order. Sheets must be stapled if necessary. The student's name, course prefix (STAT 4524/5524), and the assignment number must appear on the first page. When software output is used, a printout of the data you entered and the output must be attached or the problem will not be graded.

Exams

There will be at least one exam in the course. There may be a second exam depending on the performance of the first exam. For all exams, arriving on time is important. If a student arrives after another student has finished and exited the room, the late student will not be allowed to take the exam and will receive a grade of zero. For excused absences, it is the student's responsibility to set an appointment with the professor to take the make-up exam within two school days of the date of the original exam (unless special permission has been given by the professor ahead of time).

Final Project

Students will be placed in groups to complete a final project that will be presented on the final exam day. Students are responsible for providing equal participation and assistance in completing the group project. More information about the group project will be given to the students during the semester.

Curving Final Grades

Because this course is a merging of a graduate-level and an undergraduate-level course, the course will be taught at the graduate level and all assignments will be graded at the graduate level. However, to compensate for the undergraduates taking the course, their final course grades will be curved. The final grade earned for a graduate student will be the official course grade.

Making up any Assignment

Make-up assignments will be offered for extreme, well-documented emergencies approved by the professor. Excused absences are limited to the following conditions. If the absence is not listed as one of these conditions, (unless approved by the professor ahead of time) it does not count an excused absence.

- **Death in the Family:** the student must immediately contact his or her dean to get an official notice sent to the professor.
- **Surgeries:** the student must immediately contact his or her dean to get an official notice sent to the professor prior to the surgery.
- **Court Appearances:** the student must show to the professor the legal documentation explaining that the court appearance takes place during the day and time of the lecture.
- **Doctor, Counselor, or Health Center Appointments:** If the student had an appointment prior to the missed lecture, the health center or doctor must provide a notice explaining that the student needed to be excused on the missed lecture day. Otherwise, the student must show a note stating that that the appointment took place on the day and time of the missed lecture.
- **Certified University-Related Activities:** the student must contact the faculty advisor and have the faculty advisor send a letter or email verifying the student's participation in the activity.

For excused absences, it is the student's responsibility to set an appointment with the professor to make up the assignment within two school days of the date of the original assignment (unless special permission has been given by the professor ahead of time).

Students with Accommodations

If a student has a disability or an accommodation that is documented with the Services for Students with Disabilities Office, it is the student's responsibility to inform the professor as soon as possible. For exams, it is the student's responsibility to inform the professor of any exam accommodations at least seven days prior to the distribution of the exam.

Honor Code

The Honor Code will be strictly enforced in this course. Each student is expected to behave in such a manner that his/her academic integrity is beyond question. The Honor Code expressly forbids the following academic violations:

- **Cheating:** Cheating includes the actual giving or receiving of any unauthorized aid or assistance or the actual giving or receiving of any unfair advantage on any form of academic work, or attempts thereof.
- **Plagiarism:** Plagiarism includes the copying of the language, structure, ideas and/or thoughts of another and passing off same as one's own, original work, or attempts thereof.
- **Falsification:** Falsification includes the statement of any untruth, either verbally or in writing, with respect to any circumstances relevant to one's academic work, or attempts thereof. Such acts include, but are not limited to, the forgery of official signatures, tampering with official records, fraudulently adding or deleting information on academic documents such as add/drop requests, or fraudulently changing an examination or other academic work after the testing period or due date of the assignment.