

STA 304H1F / 1003HF - Surveys, Sampling and Observational Data/Sample Survey
Theory
Fall 2015

Lectures: Wednesdays 13:10-14:00hrs and Fridays 13:10-15:00hrs in **OI G162**

Course website: Available through <https://portal.utoronto.ca> (UT Blackboard)

Instructor: Dr. Shivon Sue-Chee (**E-mail:** shivon.sue.chee@utoronto.ca)

Office hours: Wednesdays 11:10-12:00hrs and Fridays 15:30-16:30hrs in **SS 6026**

Teaching Assistants: Anthony, Calvin, Karen, Konstantin, Qiuyuan and Zhouji

Office hours: Mondays to Fridays (except Tuesdays) 12:10-13:00hrs in **SS 1091**

Course content

This course teaches mathematical and statistical reasoning behind sampling, aspects of inference from surveys, and the interplay with observational studies. In addition to the topics listed in the calendar description, I will include discussion of current studies reported in the news.

The undergraduate calendar description is:

Design of surveys, sources of bias, randomized response surveys.

Techniques of sampling; stratification, clustering, unequal probability selection.

Sampling inference, estimates of population mean and variances, ratio estimation.

Observational data; correlation vs. causation, missing data, sources of bias.

Pre-requisite

ECO220Y1/ECO227Y1/GGR270Y1/PSY201H1/SOC300Y1/STA220H1/STA255H1/STA261H1/
STA248H1/EEB225H1

Exclusion: STA322H1

Textbooks

- *Elementary Survey Sampling, 7th edition* by Scheaffer, Mendenhall, Ott and Gerow (Brooks/Cole)
We will cover most of Chapters 1 through 5, and selected parts of Chapters 6 through 10.
- *Sampling: Design and Analysis, 2nd edition* by Sharon Lohr (Duxbury)
This will be a useful reference.

Evaluation

	Weight	Date	Time	Location
Term Test 1	25%	Wednesday, October 21	13:10-14:00hrs	TBA
Term Test 2	25%	Wednesday, November 25	13:10-14:00hrs	TBA
Final Exam	50%	Between December 11-22	(3 hrs)	TBA

Additional opportunities for course bonus points will be provided throughout the course.

Non-programmable calculators are permitted on the test and exam. A one-sided, handwritten 8-1/2" x 11" aid sheet is allowed in the test (two-sided on the final exam).

If a test is missed for a valid reason, you must submit appropriate documentation within one week of the test. If documentation is not received in time, your test mark will be zero. If the (missed) test documentation is validated, the test's weight will be shifted to the other term test. Requests for test remarking must be submitted at the time the test is returned back to you. The request must contain a justification

and will only be considered for tests which were written in ink.

Homework

Regular homework will be posted in the lecture notes and discussed in class, but will not be graded. Additional homework help will be available through TA and Instructor office hours and the class discussion board via Blackboard.

Computing

This course does not require extensive computing, but some calculations are necessary. You are welcome to use a programmable calculator, or the statistical computing package of your choice. The textbook web site provides some Excel macros for the examples in the text, and Appendix B gives SAS macros as well. I will use the R computing package, and provide sample codes in lectures. Additional help with R will be provided in office hours.

R is freely available for download at <http://cran.r-project.org> for Mac, Windows and Linux operating systems. If you wish to use R at UofT, you will need to sign up for a CQUEST account. To find out more, go to <http://www.cquest.utoronto.ca>.

Course website

The course website is available through portal and will be regularly updated with lecture notes, practice problems, and readings. Blackboard will also be used for announcements and your grades.

The discussion board will be open to all and you are encouraged to use it for course-related questions. Myself, TAs and fellow students will join the discussion. Course questions will be moderated daily.

Communication

In general, I am not able to answer questions about the course material by e-mail. Students are encouraged to attend lectures, Instructor and/or TA office hours, or post questions about the course material on the discussion board on Blackboard. E-mail is appropriate for personal matters only. Use your utoronto.ca or mail.utoronto.ca account. I will generally answer e-mail within one business day.

Students in 1003

The courses STA304 and STA1003 are grafted into one course in Blackboard, so the course access is the same as the undergraduate section. Graduate students will be given the opportunity for extended learning and be alternatively assessed. More information will be given in lecture or by email communication.

Accessibility Needs

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom, or course materials, please contact Accessibility Services as soon as possible at accessibility.services@utoronto.ca or <http://www.accessibility.utoronto.ca>.

Academic Integrity

You are responsible for knowing the content of the University of Toronto's Code of Behaviour on Academic Matters at <http://www.artsci.utoronto.ca/osai/students>. If you have any questions about what is or is not permitted in this course, please do not hesitate to contact me.