

STA 303 H1S / 1002 HS – METHODS OF DATA ANALYSIS II

Winter 2012

- Lectures:** Mondays 12:10–14:00 SS 2117
Thursdays 13:10–14:00 in SS 2117
No lectures on February 20 and 23 (Family Day and Reading Week)
- Instructor:** Dr. Alison Gibbs
- E-mail:** alison.gibbs@utoronto.ca
Use e-mail communication for personal matters and the discussion board for course questions.
- Office:** SS 5016A
- Telephone:** (416) 946-7589
- Office hours:** Mondays 14:00–15:00
Thursdays 14:00–15:00
More office hours will be scheduled before tests and assignment due dates.
- Course web pages:** Announcements and a discussion board are available through <https://portal.utoronto.ca>
Lecture notes, SAS examples, practice problems, assignments and previous exams are at <http://www.utstat.utoronto.ca/alisong/Teaching/1112/Sta303/sta303.html>

Course content

The overall theme of this course is the use of linear models in situations where the assumptions of the multiple regression model developed in STA 302/1001 may not apply. The topics fall into two main categories: 1. categorical and count variables including analysis of variance, logistic regression, Poisson regression, and log-linear models for contingency tables, and 2. correlated observations including time series and repeated measures analysis. If time permits, we will also look at non-linear regression and non-parametric data smoothing techniques. Emphasis will be on methodology and interpretation of the results of data analysis, rather than the underlying theory.

Pre-requisite

STA 302H1 / STA 1001H

I am assuming that you have used SAS previously, at the level used in STA 302/1001.

References

- *An Introduction to Categorical Data Analysis* by Alan Agresti. Includes material on contingency tables, Poisson regression, log-linear models, and logistic regression. Chapters 2, 4, 5, and 6 contain material relevant to this course. (On reserve at the Mathematics Library.)
- *A Modern Approach to Regression with R* by Simon J. Sheather. Chapter 8 (logistic regression), Chapter 9 (time series) and Chapter 10 (repeated measures). Available as an electronic resource through the University of Toronto library website.

Course web site

The course web site

<http://www.utstat.utoronto.ca/alisong/Teaching/1112/Sta303/sta303.html> will be used to post lecture notes, practice problems, SAS examples used in lecture, assignments, and previous exams. When looking at previous exams, resist the temptation to look at the solutions until you have tried the questions and spent at least a day thinking about solutions to problems of which you are unsure.

Blackboard will be used for announcements and your grades will be posted there. You are also encouraged to use the discussion board on Blackboard for all course-related questions.

Communication

In general, I am not able to answer questions about the course material by e-mail. Before you send an e-mail, make sure that you are not asking for information that is already on the course web site, or questions about the course material or assignments that are more appropriately discussed during office hours. If you do not get a response, this may be why. Questions about the course material can also be posted on the discussion board on Blackboard. I will check it every day.

E-mail is appropriate for private communication. Use your `utoronto.ca` account to ensure that your message doesn't automatically go to my Junk folder. I will generally answer e-mail within one business day.

Announcements will be posted on Blackboard. Please check there regularly. If an urgent matter arises, I may contact the entire class by e-mail. In order to receive these messages, please make sure that your ROSI account has your `utoronto.ca` e-mail.

Evaluation

	Weight	Date	Time	Location
Term Test	30%	Monday, February 27	12:10-13:40 a.m.	TBA
Assignment 1	10%	Monday, February 6	due at 14:00	
Assignment 2	10%	Monday, March 26	due at 14:00	
Exam	50%	scheduled by Faculty		

Assignments are due at 14:00 and **late assignments will not be accepted.**

If your exam mark is better than your test mark, the exam weight will be 65% and the test weight will be 15%.

Practice problems will be posted on the web. The practice problems are to help you prepare for the tests and exam and are not to be handed in. The assignments will each be a data analysis project for which you will use SAS. You will not need to know SAS syntax on the tests and exam, but you will need to interpret output from SAS.

The test will be written in a room other than the lecture room (location to be announced). If a test is missed for a valid reason, you must submit appropriate documentation within one week of the test. Print on it your name, student number, and date. If documentation is not received in time, your test mark will be zero. If a test is missed for a valid reason, its weight will be shifted to the final exam.

Any requests to have marked work re-evaluated must be made *in writing* within one week of the date the work was returned to the class. The request must contain a justification for consideration.

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:

disability.services@utoronto.ca or <http://studentlife.utoronto.ca/accessibility>.

Computing

SAS is available on the CQUEST system. CQUEST computer labs are available in Ramsey Wright. To get an account, go to www.cquest.utoronto.ca. There you will also find information about using CQUEST, including a schedule showing when labs are booked by other courses. Students enrolled in STA 1002 should see me to get a CQUEST account. I am assuming that students have used SAS before, for example in STA 302/1001.

A license for SAS for personal use can be purchased from the Information Commons Licensed Software Office. Go to www.utoronto.ca/ic/software/index.html for more information.

I will provide you with the SAS syntax for all of the examples in lecture, which should be sufficient for you to do your assignments. There are many good books on learning SAS. Here are some suggestions if you'd like other references:

- R.P. Cody and J.K. Smith, *Applied Statistics and the SAS Programming Language*. This is my favourite book for learning SAS.
- G. Der and B.S. Everitt, *A Handbook of Statistical Analyses using SAS*.
- L.D. Delwiche and S.J. Slaughter, *The Little SAS Book: A Primer*. The focus of this book is SAS programming and data manipulation and not statistical analysis.
- SAS reference manuals are available online through many sources including the University of Toronto library web site. Search for "SAS/STAT user's guide".

There are also many online tutorials and reference pages available on the internet.

Academic Integrity

You are responsible for knowing the content of the University of Toronto's *Code of Behaviour on Academic Matters* at

<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>.

If you have any questions about what is or is not permitted in this course, please do not hesitate to contact me.

It is legitimate to discuss assignment problems with other students in the class. However, assignments must be written up completely by yourself. Do not let other students read your completed assignment solutions as this can lead to copying. Failure to comply with this is a serious academic offense.