DEPARTMENT OF MATHEMATICAL AND COMPUTATIONAL SCIENCES UNIVERSITY OF TORONTO MISSISSAUGA

STA302H5F LEC0101 Regression Analysis Course Outline - Fall 2019

Class Location & Time Tue, 04:00 PM - 06:00 PM IB 345

Thu, 12:00 PM - 01:00 PM IB 150

Instructor Alvaro Nosedal-Sanchez

Office Location DH 3030

Office Hours Tuesday, 18:15 - 19:15 AND Thursday, 16:15 - 18:15 OR by appointment

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Course Web Site https://q.utoronto.ca

Course Description

Analysis of the multiple regression model by least squares; statistical properties of the least square analysis, including estimation of error; residual and regression sums of squares; distribution theory under normality of the observations; confidence regions and intervals; tests for normality; variance stabilizing transformations, multicolinearity, variable search methods. [36L, 12T]

Prerequisite: STA260H5/STA261H1; MAT223H5/MAT240H5;STA258H5(Strongly recommend)

Exclusion: STA302H1,STAC67H3 (SCI)

Distribution Requirement: SCI

Students who lack a pre/co-requisite can be removed at any time unless they have received an explicit waiver from the department. The waiver form can be downloaded from here.

Textbooks and Other Materials

Linear Models in Statistics 2nd Edition, by Alvin C. Rencher and G. Bruce Schaalje. Re-

quired. (Available free of charge in pdf format through the U of T library).

Mathematical Statistics with Applications 7E, by Wackerly, Mendenhall and Scheaer. Required. For sale at the bookstore.

ISBN-13:978-0-495-11081-1

Statistical Computing

This course uses R. R is an open-source computing package which has seen a huge growth in popularity in the last few years. R can

be downloaded from https://cran.r-project.org

Assessment and Deadlines

Туре	Description	Due Date	Weight
Term Test	Test 1	2019-10-01	25%
Term Test	Test 2	2019-11-05	25%
Final Exam	Comprehensive	TBA	40%
Assignment	Four assignments (3 best out of 4)	On-going	10%
		Total	100%

More Details for Assessment and Deadlines

TESTS

The term tests are held from 16:30 to 18:00 on the test dates. There is no extra time for late entrants. You must write tests in your registered lecture section or else you will receive a mark of 0. The final exam covers material from the entire course. Note: test solutions may be photocopied before they are returned. Missed Term Test Policy:

If you miss a term test for medical reasons, submit a U of T medical certicate indicating that you saw the doctor on the date of the missed test. If you miss a term test for any other reason, submit appropriate official documentation. Also include your name, student number, and course number at the top of the page. All documentation must be official and written in English. It is your responsibility to submit documentation to the professor within one week of the missed test. The professor determines if the absence is legitimate and is entitled to refuse your documentation if it does not meet these standards.

If you miss one term test, a make-up test will not be scheduled; your final mark will be calculated by re-weighting the other test, assignments, and final exam by a factor of 100/75.

If you miss both term tests and provide appropriate documentation to justify absences, your final exam score will account for 80% of course final mark. It is your responsibility to (i) submit documentation to the instructor within one week of each missed test and (ii) find out if your absence has been classfied as legitimate. Failure to complete (i) and (ii) guarantees you earn zero on all missed tests.

Test Re-Mark Policy:

Requests for test remarking must be made in writing. Submit a note to the instructor (not the TA) explaining why you believe your solutions deserve more marks. Submit this note and your marked test during the tutorial when tests are returned. Your TA will give your remark request to the professor. Late remark requests will not be accepted.

ASSIGNMENTS

There will be 4 assignments given during the course. They will generally consist of problems similar to homework problems or examples worked out in class. The assignment questions will be posted approximately one week before the due date. Assignments must be completed individually. You may have general discussions about the assignments with other students, however, the work you hand in must be your own. You may seek guidance from the instructors or TAs with questions, however, we cannot solve the problems for you. Assignments are due during lecture on the due date and late assignments are not accepted. Make sure to include your registered tutorial section on the front page of each assignment so you will receive it back in tutorial. Your lowest assignment mark is dropped and the remaining assignments are worth 10% of your final grade. Missed assignments earn a mark of zero, no exceptions. Medical certicates and/or other valid documentation are not accepted.

Late Assignment Policy:

Assignments must be handed in during lecture on the due dates. If you cannot make it to the lecture, you can submit the assignment through a colleague or to the Mathematical and Computational Sciences Department (DH 3012) BEFORE the due date. Late assignments will not be accepted.

HOMEWORK

Homework and readings will be assigned but not graded. However, homework problems will form the basis for tests and final exam, and will be essential to your understanding of the topics covered in class. You are encouraged to work together in groups on homework to solidify your knowledge of the material. If you miss a class, be sure to check with your work group to see what you missed, if there were new assignments, or if there were any changes in assignment or test dates.

Assigned homework problems will be listed on our webpage.

TUTORIALS

Tutorials are held every week and begin the week of September 9th. Tutorials will be used for your TA to review topics, take up homework problems, and help with assignments.

EMAIL POLICY

Email is most appropriate for personal questions. In general, we are unable to answer technical 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 outline/ website/announcements, or questions about the course material that are more appropriately discussed during office hours. If you do not get a response, this may be why. If your question is conceptual and does not require calculations or an elaborate answer, you can ask by email. Any questions regarding the tutorials should be addressed to your TA. For all other matters, contact the instructor. Please email the instructor and TAs using your *@utoronto.ca address. The subject line should contain the course number, lecture section number, and a relevant subject (indicating what the email is about). Be sure to include your full name and student number in the body of the message. You will not get a response if you email from other email addresses or do not follow the email policy.

OFFICE HOURS

There are plenty of office hours at various days/times offered by the TAs and instructor. You may also book an appointment with the instructor if you are unable to attend the regular office hours or need extra help. The TAs and instructor are here to help you! Ask questions and let the instructor know if there are any concerns.

Penalties for Lateness

No late work will be accepted.

Procedures and Rules

Missed Final Exam

Students who cannot write a final examination due to illness or other serious causes must file an<u>online petition</u> within 72 hours of the missed examination. Original supporting documentation must also be submitted to the Office of the Registrar within 72 hours of the missed exam. Late petitions will NOT be considered. If illness is cited as the reason for a deferred exam request, a U of T Verification of Student Illness or Injury Form must show that you were examined and diagnosed at the time of illness and on the date of the exam, or by the day after at the latest. Students must also record their absence on ACORN on the day of the missed exam or by the day after at the latest. Upon approval of a deferred exam request, a non-refundable fee of \$70 is required for each examination approved.

Academic Integrity

Honesty and fairness are fundamental to the University of Toronto's mission. Plagiarism is a form of academic fraud and is treated very seriously. The work that you submit must be your own and cannot contain anyone elses work or ideas without proper attribution. You are expected to read the handout How not to plagiarize (http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize) and to be familiar with the Code of behaviour on academic matters, which is linked from the UTM calendar under the link Codes and policies.

Final Exam Information

Duration:

Non-Programmable Calculators Aids Permitted:

Statistical Table

Additional Information

ACCESSABILITY NEEDS

The University of Toronto Mississauga 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 AccessABILITY Resource Center as soon as possible: http://www.utm.utoronto.ca/accessability.

STUDENT RESPONSIBILITIES

It's up to you to know all course policies and important dates - read the course outline. It's up to you to know about any important announcements

- these will come to your inbox. Check the portal regularly! Check your

*@utoronto.ca inbox regularly!

You're responsible for your own learning. We're happy to help you learn, but in the end it's up to you! Use office hours early, and use them often. Make an appointment with the professor. Keep asking questions until you're satisfied. Ask about big concepts or small details there is no such thing as a stupid question! Always take advantage of extra help don't wait until it's too late!

You must follow the U of T code of Behaviour this means that cheaters will be prosecuted. The Academic Regulations of the University are outlined in the Code of Behaviour on Academic Matters. You are expected to be familiar with, and to abide by, all components of the Code of Behaviour on Academic Matters. Full details can be found online at

http://www.governingcouncil.utoronto.ca/policies

What you get out of the course depends on what you put into the course!

INSTRUCTOR RESPONSIBILITIES

Lectures will be clearly presented, organized, and have plenty of examples.

Extra help, remedial and acceleration, is always available - in office hours,

by appointment, and by email.

Your emails will be answered in a timely fashion.

Every student in the class will be treated with fairness and respect. Students

who wish to excel are encouraged to consult regularly with the instructor.

Students who abuse the U of T code of behavior will be dealt

with appropriately.

The lecturer works closely with your TAs. TAs are trained to offer quality

tutorials, create valid quizzes, and mark all work consistently and fairly.

Last Date to drop course from Academic Record and GPA is November 7, 2019.