

COURSE OUTLINE

STAT 353: Applied Regression Analysis

Instructor(s)

Lecturer Dr. Min (Mark) Tsao, Professor

Research Area Nonparametric Statistics, Applied Statistics

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Office David Turpin Building A544

General Course Information

Number of Units 1.5

Pre-requisites STAT 256 or 261, and one of Math 110, 133, 211, 233A.

Office Hours

Tuesdays 2:30 pm to 4:30 pm, DTB A544

Fridays 2:30 pm to 4:30 pm, DTB A544

Learning Objectives

To learn statistical linear models including model parameter estimation, inference and model adequacy diagnostics.

Course Material and Online Resources

Textbook *Introduction to Linear Regression Analysis*, Fifth Edition, 2012 by D.C. Montgomery, E.A. Peck and G.G. Vining.

Course webpage Visit the course webpage for homework assignment questions and solutions, announcements and other information. In particular, if you need some information about this course, please check this course webpage first before approaching the instructor. Chances are that you can find it there. The address is:
<https://coursespaces.uvic.ca/course/view.php?idnumber=52690>

¹Emails should be used primarily for administrative purposes/questions. For technical questions about the course material or homework, face-to-face discussions are the most effective.



Calculator Students will need a calculator for this course. The only acceptable calculator for all courses offered by the Department of Mathematics & Statistics is the Sharp EL-510R, EL-510RN or EL-510RNB. It may be purchased at the UVic Bookstore or elsewhere for about \$12.

Class Meetings

Tuesdays, Wednesdays and Fridays: 10:30 am – 11:20 am in DTB A104.

Specific Topics

This course covers approximately the first 10 chapters of textbook. Topics include simple linear regression, multiple linear regression, polynomial regression, robust regression, indicator variables, variable selection, diagnostics for influence points, model adequacy checking and model building. Students are expected to use statistical software R for the course.

Homework Assignments

There are about four assignments. Reasonable amount of discussions among students are encouraged but each student must independently write his or her own solution. *Two identical or almost identical assignments will both receive no points.*

Examinations and Grading

There will be a closed book midterm and a closed book final examination. Weightings of all course components and the midterm date are:

Homework: 25%; Midterm(Wednesday, October 24): 25%; Final(Time TBA): 50%.

Accessibility Students with diverse learning styles and needs are welcome in this course.

In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Centre for Accessible Learning (CAL) as soon as possible. The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations <http://uvic.ca/cal>. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Grading Percentage scores will be converted to letter grades according to the university-wide standard table

<http://web.uvic.ca/calendar2018-09/undergrad/info/regulations/grading.html#>.

Final Examination Off-schedule final examinations (i.e., deferred examinations) are given only in accordance with the university policy as outlined in the Calendar. If you are unable to write a final examination due to illness, accident or family affliction, please refer to the following webpages for detailed instructions how to proceed: <http://web.uvic.ca/calendar2018-09/undergrad/info/regulations/concessions>.



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Students are **strongly advised not to make plans for travel or employment during the final examination period** as special arrangements will not be made for examinations that conflict with such plans.

Supplemental Examinations. The Department of Mathematics and Statistics does not award 'E' grades or offer Supplemental Examinations in any of its courses.

Policies and Ethics

Attendance The university Calendar states 'Students are expected to attend all classes in which they are enrolled.'

<http://web.uvic.ca/calendar2018-09/undergrad/info/regulations/attendance.html#>

Our courses are conducted on that basis. If you miss an announcement (information concerning midterms, corrections to assignment, etc.) because you did not attend class, you must accept the consequences of not having learned of the change.

Guidelines on Religious Observances Where classes or examinations are scheduled on the holy days of a religion, students may notify their instructors, at least two weeks in advance, of their intention to observe the holy day(s) by absenting themselves from classes or examinations.

Missing work If you miss the midterm and/or an assignment due to illness, accident, or family affliction, you should notify me as soon as possible and provide a written request to be excused as well as supporting documentation. Once your request is approved, the weight of the missed assignment will be divided evenly among the remaining assignments, and that of the missed midterm will be divided evenly among the remaining components of the course resulting in 40% for the homework assignments and 60% for the final exam.

Academic Integrity Academic integrity is intellectual honesty and responsibility for academic work that you submit individual or group work. It involves commitment to the values of honesty, trust, and responsibility. It is expected that students will respect these ethical values in all activities related to learning, teaching, research, and service. *Plagiarism and other acts against academic integrity are serious academic offenses.*

The responsibility of the institution

Instructors and academic units have the responsibility to ensure that standards of academic honesty are met. By doing so, the institution recognizes students for their hard work and assures them that other students do not have an unfair advantage through cheating on essays, exams, and projects.

The responsibility of the student

Plagiarism sometimes occurs due to a misunderstanding regarding the rules of academic integrity, but it is the responsibility of the student to know them. If you are unsure about the standards for citations or for referencing your sources, ask your instructor. Depending on the severity of the case, penalties include a warning, a failing



grade, a record on the students transcript, or a suspension.

It is your responsibility to understand the University's policy on academic integrity:

<http://web.uvic.ca/calendar2018-09/undergrad/info/regulations/academic-integrity.html#>

