University of British Columbia Okanagan
The Irving K. Barber School of Arts and Sciences
STAT 310 Regression Analysis Term I 2016-17

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1. PROFESSOR

Dr Paramjit Gill
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2. CLASS TIMES & CLASS ROOM

Lecture: Mon, Wed, Fri 10:30 AM – 11:30 AM, Room: FIP 133
Computer Lab: Fri 3:30 PM – 4:30 PM Room: FIP 133

3. OFFICE HOURS Mon, Wed, Fri 11:30 AM – 12:30 PM

4. COURSE OBJECTIVES and EXPECTATIONS

To introduce the widely used method of regression analysis, including the mathematical and statistical theory. To demonstrate the breadth of the scope of regression methodology applications, real datasets from various fields will be used as examples and in the exercises. This will involve use of statistical software in the lab to provide experience in drawing conclusions from calculated results. A substantial part of this course will involve a research project on the analysis of a large and realistic dataset.

5. CALENDAR DESCRIPTION

Theory and application of regression analysis, including residual analysis, diagnostics, transformations, model selection and checking, weighted least squares, and nonlinear models. Additional topics may include inverse, robust, ridge, and logistic regression.
[3-1-0] *Prerequisite:* STAT 230 and MATH 221.

6. REQUIRED TEXT

Introduction to Regression Modeling by Bovas Abraham and Johannes Ledolter, Thomson, Brooks/Cole.

7. EVALUATION

Homework Assignments 20%
Research Project 20%
Term Test 20% (Oct 21, 2016)
Final Exam 40%

7.1 Assignments: Home work assignments will be due approximately every 7 to 10 days with firm submission deadlines. Most of the assignments will be on data analysis which can be completed during the computer lab class. I would like to get a hard copy of the assignment so that I can add my comments. Needless to say, students must submit their own work. See section 9. ACADEMIC INTEGRITY policy for the consequences of the copying someone else work. It is good idea to work together with another student but you must not submit an identical write up. Write any interpretation and conclusions in your own words using complete sentences.

7.2 Policy on missed term test: You must take the term test on the scheduled day. Regardless of the reason for missing, no alternative arrangements will be made to take the missed test at other time. If you miss the test, your final exam marks will be adjusted to make up for the

missed test.

7.3 The term test will be held during the regular class and lab times on Oct 21 (Friday). The test will have two parts: short and theory questions and data analysis questions.

7.4 Final Exam: The final exam will be comprehensive over the whole course material. Part of the final exam will be open book. The Registrar will announce the date and time for the final exam.

8. COURSE SYLLABUS & WEEKLY SCHEDULE
Weeks 1-3 Sept 6– 23: Chapters 1 & 2 Introduction and Simple Linear Regression
Weeks 4-6 Sept 26 – Oct 14: Chapters 3 & 4 Review of Matrix Algebra and Multiple Linear Regression. Skip sections 3.3, 3.4 and 3.5.
Weeks 7-9 Oct 17 – Nov 4: Chapters 5 & 6 Model Specification and Checking
Weeks 10-11 Nov 7 – 18: Chapter 7 Model Selection
Week 12 Nov 21 – 25: Chapter 9 Nonlinear Regression
Week 13 Nov 28 – Dec 2: Research Project Presentations

9. ACADEMIC INTEGRITY
The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the break down of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. **For example, incidences of plagiarism or cheating usually result in a failing grade or mark of zero on the assignment or in the course.** Careful records are kept to monitor and prevent recidivism. A more detailed description of academic integrity, including the policies and procedures, may be found at http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,54,111,959. If you have any questions about how academic integrity applies to this course, consult with the instructor.

10. DISABILITY ASSISTANCE
If you require disability-related accommodations to meet the course objectives, please contact the Diversity Advisor of Disability Resources located in the University Centre, Room 227. For more information about Disability Resources or academic accommodations, please visit the website at: http://students.ok.ubc.ca/drc/welcome.html

11. Equity, Human Rights, Discrimination and Harassment
UBC Okanagan is a place where every student, staff and faculty member should be able to study and work in an environment that is free from human rights based discrimination and harassment. If you require assistance related to an issue of equity, discrimination or harassment, please contact the Equity Office, your administrative head of unit, and/or your unit's equity representative.
UBC Okanagan Equity Advisor: UNC 216, ph. 250-807-9291; email equity.ubco@ubc.ca
Web: http://equity.ok.ubc.ca/