STAT: 3200 (22S:152:001)  Applied Linear Regression

Spring 2015

Instructor: Zhiyun Gong

Office: 233 Schaeffer Hall, 335-2847, zhiyun-gong@uiowa.edu

Class Meeting Time: MWF 9:30--10:20 am @ 40 SH

Lab sessions will meet at 41 Schaeffer Hall. It will be incorporated into lectures. Fundamental R commands for statistical analysis will be discussed.

Office Hours: MW 2:30-4:00 pm, TTH 2:00-3:00 pm or by appointment

Department Information: Department of Statistics and Actuarial Science, 241 Schaeffer Hall,

Phone: 335-2082, http://www.stat.uiowa.edu

Department Executive Officer: Prof. Joseph B. Lang, 241 Schaeffer Hall,

Phone: 335-0712, joseph-lang@uiowa.edu

Course Prerequisites: STAT 2010 (22S:030) or STAT 2020 (22S:039) or equivalent.

Reference Textbooks: The chapter numbers in my lecture notes are consistent with the following book:


An R Companion to Applied Regression, 2010, by John Fox and Sanford Weisberg


R Software: R is open-source statistical software and freely available at http://www.r-project.org You can download R from this website for free. It is available in Instructional Technology Centers (ITCs) such as 41 Schaeffer Hall.

Course Website: http://icon.uiowa.edu

Course materials such as syllabus, lecture notes, R scripts, homework assignments, data, answer keys, and others information about this course will be posted on ICON.
Course Description and Objectives: Regression analysis with focus on applications; examining data and transforming data; simple and multiple regression models, dummy variable regression; one-way and two-way ANOVAs; diagnostics of unusual and influential data, nonlinearity, nonconstant variance, nonnormality and collinearity; model selection; logistic regression; interpretation of analysis results; hands-on data analysis with computer software. At the end of the semester, students are expected to acquire a strong foundation in basis methods required for data analysis and interpretation.

Grading: Your semester grade will consist of the following components:

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<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>15%</td>
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<tr>
<td>Midterm Exam 1</td>
<td>20%</td>
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<tr>
<td>Midterm Exam 2</td>
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<td>Midterm Exam 3</td>
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<tr>
<td>Final Exam</td>
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<td>Total</td>
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As a rough guide, A,A- = 90%-100%, B+,B,B- = 80%-90%, C+,C,C- = 70%-80%, D+,D,D- = 60%-70%.

Homework: Homework will generally be assigned periodically and posted on ICON. An assignment will be collected at the beginning of class on the due day. No homework during the weeks that midterm exams are scheduled or the last week of classes. Due to time constraints, the grader may grade only some of the assigned questions, but you are responsible for understanding all questions. Unless prior arrangements are made well in advance, for reasons judged to be acceptable by me, late homework will receive zero credit as solutions will be posted soon after the homework is due.

Homework should be neat and stapled, and all work should be shown. You are allowed to discuss homework assignments, but you should try the problems by yourself before collaborating, as during exams you will be on your own. Everyone should do his/her own programming. No blind ‘copy’ is permitted.

Exams: There will be three 50-minutes in-class midterms and a two-hour comprehensive final exam. All exams will be closed book and closed notes. Calculators may be used for exams. You can bring an one-sided 8.5"x11" formula sheet to each midterm exam, and four one-sided 8.5"x11" formula sheets to the final exam. If an exam is missed, a make-up exam will be permitted only if the circumstances of missing the exam satisfy university policies. (proper documentation will be required in such a case).
**Attendance:** Regular attendance is required.

**College of Liberal Arts and Sciences: Policies and Procedures**

**Administrative Home**  The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Student Academic Handbook.

**Electronic Communication**  University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences. (Operations Manual, III.15.2. Scroll down to k.11.)

**Accommodations for Disabilities**  A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information.

**Academic Fraud**  Plagiarism and any other activities when students present work that is not their own are academic fraud. Academic fraud is a serious matter and is reported to the departmental DEO and to the Associate Dean for Undergraduate Programs and Curriculum. Instructors and DEOs decide on appropriate consequences at the departmental level while the Associate Dean enforces additional consequences at the collegiate level. See the CLAS Academic Fraud section of the Student Academic Handbook.

**CLAS Final Examination Policies**  Final exams may be offered only during finals week. No exams of any kind are allowed during the last week of classes. Students should not ask their instructor to reschedule a final exam since the College does not permit rescheduling of a final exam once the semester has begun. Questions should be addressed to the Associate Dean for Undergraduate Programs and Curriculum.

**Making a Suggestion or a Complaint**  Students with a suggestion or complaint should first visit the instructor, then the course supervisor, and then the departmental DEO. Complaints must be made within six months of the incident. See the CLAS Student Academic Handbook.

**Understanding Sexual Harassment**  Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI Comprehensive Guide on Sexual Harassment for assistance, definitions, and the full University policy.

**Reacting Safely to Severe Weather**  In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Public Safety web site.