Statistics 2118-11: Regression Analysis

Fall 2016

6:10 - 8:40 p.m. Tuesdays in Phillips Hall 416

Instructor: Dr. James Livsey
Department Phone: 202-994-6357
Office Hours: TBD, after class or by appointment
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Grader: Kaitlyn Cross
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Office Hours: TBD

Course Description: The aim of the course is to introduce basic concepts of simple and multiple linear regression, inference, partial correlation, residual analysis, stepwise model building, multicollinearity and diagnostic methods, indicator variables, and their applications.

Prerequisite(s): One course in statistics: Stat 51, Stat 53 or equivalent.

Required Text: Regression Analysis by Example by Chatterjee and Hadi, 5th Edition

Course Objectives: As a result of completing this course, students should be able to:

1. Understand basic concepts of correlation, regression, model diagnostics and model building.
2. Know how to fit and interpret regression models and apply them in various fields (e.g. Finance, Economics).
3. Analyze and interpret Regression data using R.
4. Compare different competing regression models and select the best one among them.

Grading:

- HW Assignments 25%
- Project 25%
- Midterm Exam 25%
- Final Exam 25%

- Homework Assignments: Homework will be assigned about every other week. Late assignments will not be accepted. Students are expected to write up their own solutions to all assigned problems. If two homework submissions are very similar, students may be questioned about their solutions.
• **Midterm Exam:** The exam will be given during class time. At least two weeks notice will be given prior to exam date.

• **Final Exam:** In accord with university policy, the final exam will be given during the final exam period and not the last week of the semester. The exam will be cumulative (by nature of the subject) with more of a focus on material covered after the midterm.

**Computing:**
We will use R for analysis. Please download the R software online at: [http://www.r-project.org/](http://www.r-project.org/). A short introduction to R and tutorials for R can be found on the course Blackboard site.

**Academic Integrity:**
I personally support the GW Code of Academic Integrity. It states: “Academic dishonesty is defined as cheating of any kind, including misrepresenting one’s own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information.” For the remainder of the code, see: [http://www.gwu.edu/~ntegrity/code.html](http://www.gwu.edu/~ntegrity/code.html).

**Support for Students Outside the Classroom:**

**DISABILITY SUPPORT SERVICES (DSS)**
Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: [http://gwired.gwu.edu/dss/](http://gwired.gwu.edu/dss/)

**UNIVERSITY COUNSELING CENTER (UCC) 202-994-5300**
The University Counseling Center (UCC) offers 24/7 assistance and referral to address students’ personal, social, career, and study skills problems. Services for students include: crisis 3 and emergency mental health consultations, confidential assessment, counseling services (individual and small group), and referrals. Please see:
[http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices](http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices)

**Security:**
In the case of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, then evacuation procedures for the building will be followed. After evacuation, students should seek shelter at a predetermined rendezvous location.

**University Policy on Religious Holidays:**

• Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance;

• Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations;

• Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related activities.
Blackboard:
All students are required to register for the course in Blackboard, the GWU web-based instructional resource. Course information and materials, including homework assignments and grades will be posted there. It is the students responsibility to check the Blackboard website frequently for up-to-date information.

GWU Academic Calendar, Spring Semester 2014

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
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<tbody>
<tr>
<td>Classes Begin</td>
<td>Monday, August 29</td>
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<tr>
<td>Labor Day (no classes)</td>
<td>Monday, September 5</td>
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<tr>
<td>Fall Break (no classes)</td>
<td>Monday, October 24 - Tuesday, October 25</td>
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<tr>
<td>Thanksgiving Break (no classes)</td>
<td>Wednesday, November 23 - Saturday, November 26</td>
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<tr>
<td>Last Day of Classes</td>
<td>Monday, December 12</td>
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<tr>
<td>Final Examinations</td>
<td>Wednesday, December 14 - Thursday, December 22</td>
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Classroom Policies

- Be on time.
- No laptops, unless you can verify it is being used in a manor that aids in learning course material.
- Do not let cell phone use distract instruction.

* The instructor reserves the right to make changes to this syllabus as necessary.