STAT 5302: Intermediate Data Analysis II
Spring 2014

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Lecture Hours: MWF 1:50-2:45pm, Denney Hall (DE) 238

Prerequisites: 5299, 5301, or 529, or permission of instructor. Not open to students with credit for 530.


Course Description: Statistics 5302 is the second course in a two semester sequence in Intermediate Data Analysis. We assume that students are familiar with organizing and summarizing data, the nature of relationships between variables, sampling distributions and the underlying rationale for hypothesis tests and confidence intervals. We also assume that students are comfortable with a variety of models and inferential procedures. Specifically, the material in 5302 relies heavily on the additive model (see the early part of the text for a description of this model) and one-way ANOVA. The course will cover (simple and multiple) linear regression and ANOVA designs beyond the one-way layout.

The goals for the course are for you to (1) understand the key ideas that underlie the models we’ll work with, (2) appreciate the importance (and unimportance) of the assumptions that the models are based on, (3) be able to make sound decisions for an analysis, (4) implement formal techniques flawlessly, and (5) summarize an analysis appropriately. With these goals in mind, by the end of the semester, you should be able to design and conduct an experiment of modest size, and you should be able to analyze the data from such an experiment. We will try to accomplish these goals through homework and interactive classroom sessions.
Website:  https://carmen.osu.edu/
Many course materials will be made available here, including important announcements, homework assignments and solutions, and a selected set of course handouts.

Statistical Computing: Most class examples will use the statistical package MINITAB. You can find it in some computer labs on campus. More details are provided on the course website.

Grading:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>30%</td>
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<tr>
<td>Midterm</td>
<td>30%</td>
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<tr>
<td>Comprehensive Final</td>
<td>40%</td>
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Homework: Homework will be collected approximately weekly. **NO late homework will be accepted.** Many of the analysis for the course will be done using MINITAB. When you put together your homework solutions, be sure to cut-and-paste and to annotate the computer outputs so that the grader can follow your work. Moreover, being able to interpret results from a statistical analysis and explain those results to a non-statistician are crucially important skills. We work to build those skills in this class. Thus, solutions to applied problems must always be given in proper English in terms of the problem. You are encouraged to work together, but do not copy any part of a homework. Each student must produce his/her own homework to be handed in.

Exams: There will be one midterm and one final exam.
Midterm (tentative): February 24, Monday, TBD
Final (Comprehensive): April 29, Tuesday, 4-5:45pm
- Both exams will be in-class, close-book/closed-notes; however, you will be allowed a calculator and double-sided 8.5” × 11” formula sheets (one page for the midterm and two pages for the final).
- There will be NO makeup exams. The only excuses for missing an exam are a serious illness or a major family crisis. Proof must be provided in the form of an official document. A note from a family member alone is not sufficient.
- You have until one week after receiving your grades on the exams to dispute the grade; the same applies to any homework grade. Note that when asking for a question to be re-graded, the entire assignment/exam may be re-graded, and so you run the risk of losing more points than you gain back.

Disclaimer: This syllabus should be taken as a fairly reliable guide for the course content. However, you cannot claim any rights from it and in particular I reserve the right to change due dates or the methods of assessment. Official announcements will ALWAYS be those made in class.