Statistics 5301
Intermediate Data Analysis I
Spring 2016

Class Meetings: 209 West 18th Avenue (EA), room 170, Tu Th   8:00am – 9:50am

Instructor: Dr. James Odei
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Office Hours: 435 Cockins Hall (CH), Tu Th 10:00am – 11:30am, or by appointment

Grader:

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Office Hours	By Appointment Only

Prerequisites: Math 1075 (104) or equivalent, or Math Placement Level of R, or permission of instructor

Textbook:

(1) *Introduction to the Practice of Statistics* (8th edition)
    by David S. Moore, George P. McCabe, and Bruce A. Craig.

    This text is **NOT required** and should only be used as a **reference** for the first half of the course.
    We will only cover Chapters 1 – 9 of the book for this course.

(2) *The Statistical Sleuth: A Course in Methods of Data Analysis* (3rd edition)
    by F. L. Ramsey and D. W. Shafer.

    This text is required for the second half of the course and also used in STAT 5302, the second course
    in the Intermediate Data Analysis sequence.

    Chapters 1 – 6 will be covered for this course; they encompass topics in Drawing Statistical Conclu-
    sions, Inference Using t-Distributions, A Closer Look at Assumptions, Alternatives to t-Tools, Com-
    parisons Among Several Samples, and Linear Combinations and Multiple Comparisons of Means.

The textbooks are on reserve in the Science and Engineering Library (SEL).

Website: The course has a web page on Carmen (http://www.carmen.osu.edu). Homework assign-
ments, solutions, class schedule, and other relevant material and announcements will be posted on the web
page. Please check it on regular basis.

Course Description: Stat 5301 is the first course in a two-semester non-calculus sequence in data analy-
sis covering descriptive statistics, design of experiments, probability, statistical inference (one-sample and
two-sample problems, goodness of fit, and one-way ANOVA).

Stat 5301 is a GE Data Analysis course.

Goals: Students develop skills in drawing conclusions and critically evaluating results based on data.

Expected Learning Outcome: Students understand basic concepts of statistics and probability, compre-
hend methods needed to analyze and critically evaluate statistical arguments, and recognize the importance
of statistical ideas.

Students in Statistics 5301 are expected to be able to identify an appropriate analysis for data collected
in a study, carry out such an analysis, examine whether the assumptions behind the analysis are reason-

able, and recognize the strengths or weaknesses of the study based on how the data were collected. Doing so requires understanding basic concepts in statistics and probability; the ability to create graphical and numerical summaries of data; understanding how the design of a study affects the conclusions that can be made; and the ability to carry out basic statistical analyses (by hand or using statistical software). Students will conduct analyses of data, including a discussion (in plain English) of what conclusions can be drawn.

Important Dates: January 18 is a Martin Luther King holiday (no class). February 05 is last day to drop without receiving a "W" on the student's record. March 14 – 18 is spring break (no class).

Grading: Your grade will be based on homework assignments, two midterms, and a comprehensive final exam. The relative point-worth of these components are as follows:

Homeworks	25%	
Midterm I	20%	tentatively on Tuesday, February 16 in class
Midterm II	25%	tentatively on Tuesday, March 29 in class
Final	30%	Wednesday, April 27, 8:00am – 9:45am
	100%	

Homeworks: There will be approximately weekly assignments. Homework problems and solutions will be posted on Carmen. **No late homeworks will be accepted**. All homeworks are due at the beginning of class.

Exams: All exams will be closed book and closed notes. The final exam will be cumulative, but will emphasize the more recent material. For the two midterms you **may be** allowed to bring one standard size (8.5×11 inch) sheet containing formulae and for the final exam you **may be** allowed to bring two standard sized (8.5×11 inch) sheets.

NOTE: For all the exams you are allowed the use of a basic calculator. Exam rules will be announced in class. **No make-up exams will be administered**.

Exam	Date	Coverage (Chapters to be included)
Midterm 1	tentatively on Tuesday, February 16	TBA
Midterm 2	tentatively on Tuesday, March 29	TBA
Final Exam	Wednesday, April 27, 8:00am – 9:45am	**Comprehensive**

Computing: You will be required to do some basic statistical analyses on the computer using the statistical software package R for your assignments. More details will be given on the course website.

Academic Misconduct: Although you are encouraged to work together, you are expected to produce independent work for homeworks and exams. Academic misconduct for any sort will not be tolerated. If students are caught indulging in dishonest activities during the quizzes or the exams, they will be reported immediately, without any exception. Please review OSU's policies at http://studentaffairs.osu.edu/csc/.

Special Accommodation: Students with ADA-documented physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations. Veterans may also be eligible for services. All accommodations are coordinated through the Office of Disability Services (ODS) in Room 150 of the Pomerene Hall, (614) 292-3307. Please contact the ODS as early in the semester as possible. You can also contact the instructor privately to discuss your specific needs.

NOTE: The above schedule and procedures in this course are subject to change in the event of extenuating circumstances.

Disclaimer: This syllabus should be taken as a fairly reliable guide for the course content and policies. However, you cannot claim any right 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 and on CARMEN.