

## Math 410A Winter 2016

### Advanced Statistics

Meeting times: Tues, 2:00 – 3:15 in Hertz 105

Thurs, 2:00 – 3:15 in Boullion 103

**Instructor:** Dr. Dominic Klyve

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**Office Hours:** Tuesday 1:00 – 2:00 in L&L 103, Thursday 1:00 – 2:00 in BOU 123, and by appointment

**Course Goals and Description:** This course is the first of a two-part sequence designed to cover beginning and intermediate regression, ANOVA, and non-parametric statistical models. We will learn the theory behind these models, and we will spend a lot of time using them to answer questions about real-world data. Topics will likely include: linear regression, multiple regression, logistic regression, and ANOVA. The first half of the course (410A) will include some very basic ANOVA, a lot of more advanced details about regression, and an introduction to R. We will begin a significant project during the winter term. The second half (410B) will include many details about ANOVA, will have a significant project component, and will include an introduction to presenting statistics in public.

**Required Text:** Ann R. Cannon, et al. *Stat 2: Building Models for a World of Data*, WH Freeman. **Recommended Text:** Jared P. Lander, *R for Everyone: Advanced Analytics and Graphics*, Addison Wesley Data & Analytics Series.

**Evaluation and Grading:** Grades will consist of four components: (almost) weekly labs (20%), homework (10%), two midterm exams (20% each), and a large quarter-long project (30%) in which you will complete and write about a significant statistical analysis of your own or with your team. This may serve as a prelude to a larger project you will complete in Math 410B.

Grades will be assigned according to the following scale:

	A	93-100%	A-	90-92.99%	
B+	87-89.99%	B	83-86.99%	B-	80-82.99%
C+	77-79.99%	C	73-76.99%	C-	70-72.99%
D+	67-69.99%	D	63-66.99%	D-	60-62.99%
	F	59.99% and below			

**General Course Policies:** Daily attendance is expected and considered necessary for success. It is your responsibility to find out what was covered on days you were absent. You are responsible for any announcements made in class regarding homework, exams, and quizzes. In-class worksheets may be given from time to time and will be factored into your quiz grade (see below).

All work handed in for the course must be written neatly, legibly, clearly, using correct mathematical notation, and with sufficient explanation. A good rule of thumb is to write your solution so that a classmate who knows roughly what's going on in the course but doesn't know how to do this particular problem can understand your solution. As a side benefit, this makes it much more likely that you will be able to understand your solution when you go back to study for exams or the final! The bottom line: for any written work handed in for the course, including homework, quizzes, and exams, *you must show all pertinent work*.

Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their "Confirmation of Eligibility for Academic Adjustments" from the Center for Disability Services as soon as possible so we can discuss how the approved adjustments will be

implemented in class. Students without this form should contact the Center for Disability Services, Bouillon 205 or dssreceipt@cwu.edu or 963-2171.

I reserve the right to change the policies contained in this syllabus as dictated by developments during the quarter.

**Exams:** Make-up exams must be arranged ahead of time unless you can document an unexpected circumstance beyond your control that prevented you from taking the exam. For instance, in the case of illness, a doctor's note will be required (please note that Student Health will provide such notes for students, and that charges for Student Health are included in student fees).

All make-up exams must be requested as early as possible. Exams requested more than 24 hours after the scheduled exam will be given only in extreme extenuating circumstances (e.g. hospitalization, jail . . .) When a make-up exam cannot be taken in a timely manner, typically before exams are returned to the class, I reserve the right to instead replace that portion of the course grade with the final exam grade.