Statistics 500

Dr. Alexander Vekker **Fall 2021**

Reading List

OFFICE HOURS: after class and Tuesday, 11-11.50 am

Teaching Assistant: Jia Shi, shij1116@sas.upenn.edu

GRADING WEIGHTS:	**MIDTERM (Tuesday, October 12):**	**35%**
	FINAL (24 hour take-home during finals week):	**40%**
	HOMEWORKS:	**25%**

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REQUIRED TEXT:
Moore, McCabe, Craig, Introduction to the Practice of Statistics, 9th Edition, W.H.Freeman and Company, 2017. 8th, 7th or 6th editions are also fine, however, keep in mind that homework will be assigned using the 9th edition. A cross-walk to 8th edition will be provided. 8th edition is on reserve in Lippincott and I expect that the pages with homework problems from the 8th edition will be posted on Canvas by the library.

We will use Stata software in class and some homework assignments will require software use. Stata is available in many locations on campus as well as through the Penn's library virtual computer lab. Follow this link https://guides.library.upenn.edu/vlab/register **to register. I will post on Canvas links to some Stata manuals. I will also provide you examples on how to use the software during class. Students who decide to purchase Stata (not required), can use the following link** http://www.stata.com/order/new/edu/gradplans/student-pricing/**. For those who would like to use R, support will also be provided. "A Modern Approach to Regression with R" (available in a digital form** https://www.springer.com/gp/book/9780387096070**) is a good resource for some of the topics we cover for those who use R. I will post links to other R resources.**

Homework will be assigned every two weeks or so and will be posted on Canvas. Only one problem from each homework will be graded, but you will not know in advance which one it is. The lowest homework score will be dropped.

READINGS (this is tentative and subject to change):

Week 1. Descriptive Statistics Review: Chapter 1. Introduction to data analysis using Stata.

Week 2. Probability Review: Chapter 4; Confidence intervals and hypothesis tests: Chapter 6.

Week 3. One and two-sample tests of means: Chapter 7.

Week 4. Data analysis of two-way tables: Chapter 2; Inference for two-way tables: Chapter 9.

Week 5. Chapter 2; Inference for two-way tables: Chapter 9; Simple regression. Chapter 2

Week 6. Inference for regression: Chapter 10.

Week 7. Midterm exam

Week 8. Multiple regression: Chapter 11

Week 9. Multiple regression: Chapter 11

Week 10. ANOVA: Chapter 12

Week 11. ANOVA: Chapter 12; Two-way ANOVA: Chapter 13

Week 12. Two-way ANOVA: Chapter 13

Week 13. Bootstrap methods: Chapter 16

Week 14. Bootstrap methods: Chapter 16; Design of Experiments: Chapter 3

Week 15. Design of Experiments: Chapter 3; Review