

## Statistics 112

Dr. Alexander Vekker

Spring 2023

### Reading List

**OFFICE HOURS:** after class, and 9-10 am Tuesday & Thursday, F92 JMHH

**Teaching Assistant:** Abigail So, [abso@sas.upenn.edu](mailto:abso@sas.upenn.edu)

**Office Hours:** 10:15-11:45am Friday, 1201 SHDH

<b>GRADING WEIGHTS:</b>	<b>MIDTERM (Thursday, March 2 during class meeting):</b>	<b>35%</b>
	<b>FINAL (24-hour take home exam during the finals week):</b>	<b>40%</b>
	<b>HOMEWORKS:</b>	<b>25%</b>

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### **REQUIRED TEXT:**

Moore, McCabe, Craig, Introduction to the Practice of Statistics, 9th Edition, W.H. Freeman and Company, 2017. 8<sup>th</sup>, 7<sup>th</sup> or 6<sup>th</sup> editions are also fine, however, keep in mind that homework will be assigned using the 9<sup>th</sup> edition. 9<sup>th</sup> edition is on reserve in Lippincott and I expect that the pages with homework problems from the 9<sup>th</sup> 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. Homework will also be checked for completeness. The lowest homework score will be dropped.

### **READINGS (this is tentative and subject to change):**

Week 1. Descriptive Statistics Review: Chapter 1; Introduction to 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. Inference for two-way tables: Chapter 9; Simple regression. Chapter 2

Week 6. Inference for regression: Chapter 10.

Week 7. Multiple regression: Chapter 11.

Week 8. Review; Midterm exam.

Week 9. Spring Break

Week 10. ANOVA: Chapter 12.

Week 11. Two-way ANOVA: Chapter 13; Logistic regression: Chapter 14.

Week 12. Logistic regression: Chapter 14; Nonparametric tests: Chapter 15

Week 13. Nonparametric tests: Chapter 15; Bootstrap methods: Chapter 16

Week 14. Bootstrap methods: Chapter 16

Week 15. Design of Experiments: Chapter 3

Week 16. Review

