Lincoln University
Fall 2022

COURSE: **BA 115 STATISTICS** (Wednesday 3:30—6:15 PM)
                            3 units (45 hours of lectures)

LEVEL: Developed (D)

INSTRUCTOR: Igor Himelfarb, Ph.D. ihimelfarb@lincolnuca.edu

OFFICE HOURS: by appointment via ZOOM

TEXT: Moore, D., McCabe, G., Alwan, L., Craig, B., & Duckworth, W. (2011). *The Practice of statistics for business and economics.* 3rd Ed. W.H. Freeman and Co. ISBN: 978-1-4292-3281-4.

TOOLS: **The course will be taught online. Students will be sent a ZOOM link for the class.** Students will be required to use a simple calculator during lectures and a laptop with Excel software is recommended for sections.

CATALOG DESCRIPTION:

This course is designed for business major students and for the non-business students without previous knowledge of statistics. Emphasis is on descriptive statistics and inferential statistics with relevant applications to solving problems, hypothesis testing and decision-making. Important statistical models and distributions will be discussed (3 units). Prerequisite: MATH 10 or MATH 15.

COURSE LEARNING OUTCOMES AND ASSESSMENT:

- Students are expected to develop logic, application, and interpretation of the most commonly univariate statistical techniques used in business and social sciences. The class does not require previous knowledge of any complicated mathematical techniques but requires common sense and practical logic.
  - **Assessment:** Homework, Midterm
- Students are expected to learn the basic concepts and techniques of business statistics and probability. The emphasis of the course will be on the application of the statistical techniques.

- o **Assessment:** Homework, Midterm, In-class discussions
- Upon completion of the class, students are expected to be able to construct mathematical models and display a solid foundation in the principles of statistical thinking using case study and example-driven discussions of all basic business statistics topics.
  - o **Assessment:** Midterm, Final exam
- My goal is that by the end of the semester students will be able to choose an appropriate statistical analysis for the type of data they plan to analyze, select an appropriate model, conduct and interpreter the analysis, and write up the results.
  - o **Assessment:** Midterm, Final exam

INSTRUCTIONAL METHODS:

The emphasis will be on learning by solving problems. Every student is welcome to participate in intensive classroom activities. Reading and problem solving assignments will be given throughout the course. Homework will be assigned and solved during sections. Suring lectures, students will learn principles and concepts covered in the text as well as in various sources on relevant topics. The teaching assistant will conduct the laboratory session. He will help students to review the material as well as work on cases relevant to the topics covered by the homework. There may be class discussions and group presentations by students on the project assignments during class.

CLASS ATTENDANCE:

Students are expected to attend class on a regular basis. Attendance is crucial to performing well in this course, as some of the material presented may not be found in the textbook. Further, the lecture and classroom demonstrations will emphasize and expand upon important topics found in the textbook. Thus, it is vital that you take thorough notes in class.

ASSIGNMENTS:

There will be a bi-weekly homework assignment. These assignments will typically consist of some theoretical exercises, conducting analyses on provided data and turning in a results report (write-up) describing the findings, but may include other questions. The purpose of the assignments will be to provide a medium through which you really learn the material. Students are welcome to work with other classmates on the homework, but it is expected that each student turns in his/her own, independently written, homework. Any indication that work was directly shared will not be tolerated and will result in a non-passing grade.

There will be a number of readings (mostly journal articles) assigned periodically in addition to the reading in the textbook.

In accordance with the university policy on cheating and plagiarism, any student who does not do his/her own write-up completely independently on any assignment will fail the assignment.

EXAMS:

There will be two exams — a midterm and a final. To assess your learning in this course, exam questions will be derived from the lecture and textbook. Topics covered in lecture will be of major emphasis on the exam, and should be the focus of your textbook readings, though there will be some test questions found in the assigned readings but not covered in the lecture. To avoid guessing, there will be no multiple-choice questions on the exams. Exams may include conceptual or theoretical questions, Excel output interpretations or questions that require simple calculations. On the day of the exam, remember to bring a non-graphing calculator (cell phone calculators are unacceptable). ***All exams are open books and open notes.***

GRADING PLAN:

Percentage	Grade
90-100%	A
80-89%	B
70-79%	C
60-69%	D
below 60%	F

Item	Weight
Homework	30%
Midterm	30%
Final	40%

CLASSROOM POLICY:

I am available and will do my best to help you learn and succeed. All classes will be held via online ZOOM meeting. **During class time, students must keep their cameras on. A turned-off camera will be counted as absence.** Questions and points of discussion are encouraged. I am also highly accessible for discussions if you wish to receive additional information or learn more about a certain topic or need help with data analysis. Please make an appointment or talk to me immediately after class if you need study tips or additional help.

TENTATIVE CLASS SCHEDULE:

WEEK	CONTENT
Week 1	Introduction to Statistics. Variables. Measurement Scales.
Week 2	Variables (con-ed). Descriptive Statistics.
Week 3	Descriptive Statistics (con-ed).
Week 4	Probability. Random Variables.
Week 5	Correlation. Simple Regression.
Week 6	Multiple Regression.
Week 7	Midterm
Week 8	Sample and Sampling.
Week 9	Principles of Hypotheses Testing. Statistical Significance. Confidence Intervals.
Week 10	Inferential Statistics: Proportions, One-Sample Techniques.
Week 11	Inferential Statistics: Two-Sample Techniques.
Week 12	Inferential Statistics: Two-Sample Techniques (con-ed).
Week 13	Chi-Square Test.
Week 14	ANOVA
Week 15	Final Exam

Note: Instructor reserves the right to modify the content of this syllabus.

GOOD LUCK!

Syllabus Reviewed: 8/15/2022