Lincoln University

BA 115 – Statistics

COURSE SYLLABUS

Fall 2025

Instructor:	Ms. Olesya Agafontseva
Lecture Schedule:	Mondays, 12:30 PM – 3:15 PM
Credits:	3 units / 45 lecture hours
Level:	Developed (D)
Office Hours:	Mondays and Thursdays, 11:45 – 12:30 by appointment e-mail: oagafontseva@lincolnuca.edu
Textbook:	"Statistics" by David Freedman, Robert Pisani, and Roger Purves (FPP). Fourth edition, W.W. Norton & Company. ISBN 13-978-0-393-92972-0. The previous editions are okay.
Tools:	Students will need to use a simple calculator during lectures. A laptop with Excel software is recommended for some lectures.
Last Revision:	August 01, 2025

CATALOG DESCRIPTION

This course is designed for both the business major 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[1]

	Course Learning Outcome	Program LO	Institutional LO	Assessment activities
1	Students are expected to learn basic concepts and techniques regarding business statistics and probability. The emphasis of the course will be on the application of statistical techniques	PLO 1	ILO 1a, ILO 2a, ILO 3a	Midterm and Final Exams
2	Students are expected to develop logic, application and interpretation of the most	PLO 2	ILO 1a, ILO 6a	Midterm Exam and Final Exam

[1] Detailed description of learning outcomes and information about the assessment procedure are available at the Learning Outcomes Assessment section of LU website.

	common statistical techniques used in business and social science.			
3	Confidently communicate using business statistics and mathematics terminology	PLO 3		Case Analyses
4	Be able to choose an appropriate statistical analysis for the type of data to be analyzed.	PLO 4	ILO 1a, ILO 2a, ILO 5a	Final Exam

INSTRUCTIONAL METHODS

This is a direct classroom instruction course.

Lecture method, where every student must participate in an intensive preparation and classroom activity. The emphasis will be on learning by examples and solving problems. Problem solving assignments will be given throughout the course during the class and as a homework.

Assignments and projects require students to actively use resources of the library. Detailed guide to business *resources of the library* as well as the description of Lincoln University approach to *information literacy* are available at the LU Library website (lincolnuca.libguides.com).

ACADEMIC HONESTY & INTEGRITY HONOR CODE

The faculty, administration, and staff reinforce academic honesty and principles of academic honor. Independent learning is vital to the requirements of honesty and integrity in the performance of academic assignments, both in the classroom and outside. Students should avoid academic dishonesty in all of its forms, including plagiarism, cheating, and other forms of academic misconduct. The University reserves the right to determine what constitutes a violation of academic honesty and integrity.

ATTENDANCE

Students are expected to attend each class section. If you cannot attend a class due to a valid reason, please notify the instructor prior to the class. If you miss a class, you are responsible for getting notes on the material covered from a classmate or the instructor.

CLASSROOM POLICY

- Ask questions right away during the class if anything is not clear.
- Come **on time**. Late arrivals are not tolerated. Attendance will be taken each class at a time chosen by the instructor.
- Students are to remain in class during the entire session except for breaks. **Students are not allowed to come and go during class session.**
- To avoid distracting noise in class, cellular phones **must** be turned off or the ringing mode silenced.
- **Cell phones are not to be used in the classroom during instructional time.** People not following this rule will be forced to leave the class.
- You can use a computer in class **only** to take notes, to access course materials from the course webpage, or to locate information relevant to the class discussion.

- All class participants are expected to exhibit respectful behaviors to other students and the instructor. Inappropriate or disruptive behavior will not be tolerated, nor will be lewd of foul language.
- Students engaging in disruptive behavior in class will be asked to leave and may be subject to other penalties if the behavior continues.
- No eating is permitted during lecture.
- Registering on the class website (CANVAS) is the responsibility of a student.
- Address instructors' and staff members by their titles, such as Dr. or Professor. When in doubt, use Mr. or Ms. Unless specifically invited, don't refer to instructors by their first name.
- Do not write an email to a college instructor or staff member the way you would send a casual text.

REQUIREMENTS

Continuous assessment is emphasized. Problem solving homework assignments will be given every week. There will be quizzes given during the course. Students must complete all home tasks, quizzes, and midterm and final exams on the dates due.

Zero tolerance to plagiarism and cheating is enforced. Plagiarism or cheating will result in grade "F" (with zero points) and a report to the administration.

Administrative policies on ABSENCES FROM CLASSES

A student may be DISMISSED after missing 3 consecutive classes registered in a semester.

ASSIGNMENTS

Most assignments will be from the textbook. Each assignment is due at the beginning of the following class.

EXAMS

Midterm and Final Exams consist of problem solving.

The exams will cover all assigned chapters, any additional readings or supplementary materials covered in class.

The exams are "open book" and "open notes". Using of electronic devices is not allowed. Simple calculators will be provided.

GRADING POLICY

All activities will be graded according to the points as shown below:

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Points	93-100	90-92	87-89	83-86	80-82	77-79	73-76	70-72	67-69	60-66	0-59

The exam grade will be given as the percentage points of the correct answers.

The final grade for the course will be given as the total weighted score for all activities according to the percentage shown in the table below:

Activity	Percent
Homework Assignments and Class Activity	20%
Quizzes	10%
Midterm exam	30%
Final exam	40%
Total	**100%**

MAKE-UP WORK

Assignments are to be completed on time during the course. Late assignments will result in a reduced grade. Midterm and Final exams cannot be made up if missed unless there is a documented emergency.

COURSE SCHEDULE

	Date	Topic	Chapters
1	Aug. 25	**Syllabus. Review of math tools**: numbers (fractions and decimals); graphs (scales, coordinates, transformations, distance between points, linear function); algebra (sigma symbol, square formulas). **Introduction to Statistics: Variables, Scales, Experiments**	Ch. 7 Ch. 1, 2
2	Sep. 8	**Descriptive Statistics:** Histogram **Software tools:** Excel	Ch. 3
3	Sep. 15	**Continue Descriptive Statistics:** Average and Standard Deviation **Review of Problems:** Descriptive Statistics. The average, drawing histogram, the average and the histogram, the standard deviation	Ch. 4
4	Sep. 22	**Normal Distribution:** The normal curve. The normal approximation for data, percentiles, change of scale **Correlation:** The scatter diagram, the correlation coefficient	Ch. 5, 6 Ch. 8, 9
5	Sep. 29	**Quiz 1 and Solutions** (Descriptive Statistics) **Practice. Normal Distribution:** Finding area under the normal curve, the normal approximation for data, percentiles, change of scale	
6	Oct. 6	**Correlation and Regression:** The concept of regression, the graph of average, the regression method for individuals **Practice:** Calculating the correlation coefficient (r), matching the scatter diagrams with the correlation coefficient, ecological correlations, association is not causation.	Ch. 10, 11, 12
7	Oct. 13	**Practice Midterm.** Descriptive Statistics, Normal Distribution, Correlation and Regression. Questions and discussions	Ch. 1-12
8	Oct. 20	Midterm Exam	
9	Oct. 27	**Probability and Random Variables:** Probability histograms; Conditional probability; Independence; Chance processes; Normal approximation for probability	Ch. 13, 14, 15
10	Nov. 3	**The Law of Averages. Box Model and Sampling.**	Ch. 16, 17, 18

		Sampling and Confidence Intervals: expected value and standard error.	Ch. 19, 20, 21
11	Nov. 10	**Practice: Law of average and the normal approximation** **Review exercises:** Making a box Model **Practice:** Sampling; Confidence Intervals	
12	Nov. 17	**Quiz 2 and Solutions** (Box Model, Probability, Confidence Intervals) **Interference for Percentage**. Accuracy of percentage and averages **Practice: Interference for Percentage:** sample average; standard error	Ch. 21, 23
13	Nov. 24	**Test of Significance:** The null and the alternative hypothesizes, test statistic and significance level, testing averages. **Practice: Test of Significance:** Statistic and significance level; making a test of significance; zero-one boxes.	Ch. 26, 27
14	Dec. 1	**Chi-Square Test:** testing independence **Practice: Chi-Square Test. Review of the course**	Ch. 28
15	Dec. 8	**Final Exam**	Ch. 13, 14, 16, 17, 18, 20-23, 26, 27

MODIFICATION OF THE SYLLABUS

The instructor reserves the right to modify this syllabus at any time during the semester. Announcements of any changes will be made in a classroom.