DOANE UNIVERSITY

SYLLABUS

Course Title	Business Statistics
Course Number	BUS 215
Number of Credits	3
Course Dates	Winter Term - 2019
Instructor	Dr. Jared Cook
Email Address	Jared.Cook7052@doaned.edu)
Office Hours/Availability	E-mail is the easiest way to get ahold of me. I'm generally checking every few hours and can usually get back to you within 48 hours at the latest. Office hours – Monday/Wednesday/Friday in office [Gaylord Hall 414], Reachable by E-mail anytime.
Phone Number	On campus - ext. 6738
Textbook Information: (e.g. title, edition, publisher, ISBN)	Lind, D., Marchal, W., & Wathan, S. (2013). *Statistics for Business and Economics.* McGraw-Hill Irwin. New York NY
Additional Course Materials	N/A
Course Description	Course description - An introductory course in statistical procedures with applications to business. Topics include descriptive statistics, the binomial and normal distributions, sampling, hypothesis testing, estimation, correlations, contingency tables, one-way analysis of variance and linear regressions.

Course Learning Outcomes/Objectives	Upon completion of this class, students will be able to ● CO 1) collect a data set, identify the sampling method used, and recognize potential bias; ● CO 2) describe a dataset with tabular, graphical, and numerical methods; ● CO 3) test various hypothesis and construct confidence intervals; ● CO 4) scrutinize and interpret results and draw meaningful conclusions; and ● CO 5) present your data and results in a way that is concise and visually appealing and provides information to the reader. Student learning objectives – 1. By the end of this course, students will be able to recognize and select appropriate basic statistical formulas for various situations. 2. By the end of this course, students will be able to compute statistical formulas to interpret data for decision making.
Course Prerequisites	Students must be of sophomore status or above, or with permission.
Instructional Details	This course utilizes an Andragogical approach. For those who are not familiar, andragogy (the study of adult learning) centers on the learner. In short, while there are lectures and videos, the emphasis is on consistently working through the course material, applying, analyzing, and synthesizing the data.
Technology Requirements	https://www.doane.edu/faq/minimum-computer-requirements

Course Schedule

TOPIC	MODULE OBJECTIVES	ASSESSMENTS	ACTIVITIES	INSTRUCTIONAL MATERIALS
Week/Mod 1	1.1 Recognize descriptive and inferential statistics 2.1 Recognize and describe variables as qualitative, quantitative, discrete and continuous 3.1 Recognize nominal, ordinal, interval, and ratio measurements 1.2 Summarize Frequency and relative frequency tables 2.2 Display a frequency table using a bar or pie chart 3.2 Summarize quantitative variables with frequency and relative frequency distributions 4.2 Display a frequency distribution using a histogram or frequency polygon	Describing Data: Frequency Tables and Distributions Quiz (MO 1.1, 2.1, 3.1, 1.2, 2.2, 3.2, 4.2)	Activity worksheets (MO 1.1, 2.1, 3.1, 1.2, 2.2, 3.2, 4.2)	Chapter 1 + 2 - Statistics for Business and Economics Assignment due Monday – Read through pages 1-17 (Up to levels of measurement) Assignment due Wednesday - Read through pages 18-33, Assignment due Friday – Read though pages 34 – 50 use chapter summary and exercises to understand material and take quiz

Week/Mod 2	**1.3 Compute and interpret the mean, the median, and the mode** **2.3 Compute a weighted mean** **3.3 Compute and interpret the geometric mean** **3.4 Compute and interpret the range, variance, and standard deviation** **4.3 Explain and apply Chebyshev's theorem and the Empirical Rule** **3.6 Compute the mean and standard deviation of group data** **1.4 Construct and interpret a dot plot** **2.4 Construct and describe a stem-and-lead display** **3.4 Identify and compute measures of position** **4.4 Construct and Analyze a box plot** **5.4 Compute and interpret the coefficient of skewness** **6.4 Create and interpret a scatter diagram** **7.4 Develop and explain a contingency table**	**Understanding Statistics Quiz: Numerical Data and Displaying and Exploring Data (CO 2, MO 1.3, 2.3, 3.3, 4.3, 5.3, 6.3, 1.4, 2.4, 3.4, 4.4, 5.4, 6.4, 7.4) (2 hours)**	**Activity worksheets(CO 2, MO 1.3, 2.3, 3.3, 4.3, 5.3, 6.3, 1.4, 2.4, 3.4, 4.4, 5.4, 6.4, 7.4) (2 hours)**	**Chapter 3 +4 - Statistics for Business and Economics** **Assignment due Monday – Read 51 – 78** **Assignment due Wednesday – Read pages 79-106** **Assignment due Friday – Read pages 107-131. use chapter summary and exercises to understand material and answer quiz**

Week/Mod 3	**1.5 Define the terms probability, experiment, event, and outcome** **2.5 Assign probabilities using a classical, empirical, or subjective approach** **3.5 Calculate probabilities using the rules of addition and rules of multiplication** **4.5 Calculate probabilities using a contingency table and Bayes' theorem**	**A Survey of Probability Concepts Quiz (MO 1.5, 2.5, 3.5, 4.5) (2 Hrs)** **Online unit exam MO 1-5 (8 hrs)**	**Activity worksheets MO 1.5, 2.5, 3.5, 4.5) (2 Hrs)**	**Chapter 5 - Statistics for Business and Economics** **Assignment due Monday – Read 132 – 146** **Assignment due Wednesday – Read pages 147-166** **Assignment due Friday – Read pages 166-175. use chapter summary and exercises to understand material and answer quiz.**

Week/Mod 4	**1.6 Identify the characteristics of a probability distribution** **2.6 Distinguish between discrete and continuous random variables** **3.6 Compute the mean, variance, and standard deviation of a discrete probability distribution** **4.6 Explain the assumptions of the binomial distribution and apply it to calculate probabilities.**	**Discrete Probability Distributions quiz (MO 1.6, 2.6, 3.6, 4.6) (2 Hrs)**	**Activity worksheets(MO 1.6, 2.6, 3.6, 4.6)**	**Chapter 6 - Statistics for Business and Economics** **Assignment due Monday – Read 175 – 184** **Assignment due Wednesday – Read pages 185 - 201** **Assignment due Friday – Read pages 201 - 208. use chapter summary and exercises to understand material and answer quiz.**

Week/Mod 5	**1.7 Describe the uniform probability distribution and use it to calculate probabilities** **2.7 Describe the characteristics of a normal probability distribution** **3.7 Describe the standard normal probability distribution and use it to calculate** **4.7 Approximate the binomial probability distribution using the standard normal probability distribution to calculate probabilities.**	**Continuous Probability Distributions Quiz (MO 1.7, 2.7, 3.7, 4.7) (2 Hrs)**	**Activity worksheets(MO 1.7, 2.7, 3.7, 4.7)**	**Chapter 7 - Statistics for Business and Economics** **Assignment due Monday – Read 211 – 228** **Assignment due Wednesday – Read pages 229 – 239** **Assignment due Friday – Read pages 239 -249 use chapter summary and exercises to understand material and answer quiz.**

Week/Mod 6	**1.8 Explain why populations are sampled and describe four methods to sample a population** **2.8 Define sampling error** **3.8 Demonstrate the construction of a sampling distribution of the sample** **4.8 Recite the central limit theorem and define the mean and standard error of the sampling distribution of the sample mean** **5.8 Apply the central limit theorem to calculate**	**Sampling Method and the Central Limit Theorem Quiz (MO 1.8, 2.8, 3.8, 4.8) (2 Hrs)**	**Activity worksheets(MO 1.8, 2.8, 3.8, 4.8)**	**Chapter 8 - Statistics for Business and Economics** **Assignment due Monday – Read 251 – 261** **Assignment due Wednesday – Read pages 262 - 273** **Assignment due Friday – Read pages 274 - 281 use chapter summary and exercises to understand material and answer quiz.**

Week/Mod 7	**1.9 Compute and interpret a point estimate of a population mean** **2.9 Compute and interpret a confidence interval for a population mean** **3.9 Compute and interpret a confidence interval for a population proportion** **4.9 Calculate the required sample size to estimate a population proportion or population mean** **5.9 Adjust a confidence interval for finite populations**	**Estimation and Confidence Intervals Quiz (MO 1.9, 2.9, 3.9, 4.9, 5.9)**	**Activity worksheets (MO 1.9, 2.9, 3.9, 4.9, 5.9)**	**Assignment due Monday – Read 283 – 300** **Assignment due Wednesday – Read pages 301 - 309** **Assignment due Friday – Read pages 309 - 317 use chapter summary and exercises to understand material and answer quiz**

Week/Mod 8	**1.10 Explain the process of testing a hypothesis** **2.10 Apply the six-step procedure for testing a hypothesis** **3.10 Distinguish between a one-tailed and a two-tailed test of hypothesis** **4.10 Conduct a test of a hypothesis about a population mean**	**One-Sample Tests of Hypothesis Quiz (MO 1.10, 2.10, 3.10, 4.10)** **Online Unit Exam (MO 6 -10)**	**Activity worksheets (MO 1.10, 2.10, 3.10, 4.10)**	**Assignment due Monday – Read 318 – 326** **Assignment due Wednesday – Read pages 327 -347** **Assignment due Friday – Read pages 348 - 352 use chapter summary and exercises to understand material and answer quiz**

Grading Assessments

Type of Assessment	**Points**	**Total possible points**
Tests (2)	220	440
Quizzes (6)	40	240
Weekly Activities (8)	40	320
Total Points possible	-	1000

Online Courses ONLY

Online Course

This is an online course and therefore there will not be any face-to-face class sessions. All assignments and course interactions will utilize internet technologies.

Communicating with the Instructor

This course uses a "three before me" policy in regards to student to faculty communications. When questions arise during the course of this class, please remember to check these three sources for an answer before asking me to reply to your individual questions:

1. Course syllabus
2. Announcements in Blackboard
3. The "Question Center" discussion board

This policy will help you in potentially identifying answers before I can get back to you and it also helps your instructor from answering similar questions or concerns multiple times.

If you cannot find an answer to your question, please first post your question to the "Question Center" discussion board. Here your question can be answered to the benefit of all students by either your fellow students who know the answer to your question or the instructor. You are encouraged to answer questions from other students in the discussion forum when you know the answer to a question in order to help provide timely assistance.

If you have questions of a personal nature such as relating a personal emergency, questioning a grade on an assignment, or something else that needs to be communicated privately, contact me via email or phone. My preference is that you will try to email me first. Please allow 24 hours for me to respond to emails Monday-Friday and 48 hours on the weekend.

If you have a question about the technology being used in the course, please contact the Doane University Help Desk for assistance.

Phone: 402-826-8411

Email: helpdesk@doane.edu

Web: http://www.doane.edu

Computer Requirements

Minimum computer requirements for the successful use of Blackboard:
http://www.doane.edu/about-doane/offices/its/help-and-support#min_requirements

Minimum computer requirements for success in this course:

- Reliable computer and internet connection
- A web browser (Chrome or Mozilla Firefox)
- Adobe Acrobat Reader (free)
- Adobe Flash Player (free)
- Word processing software—Microsoft Word or Google Docs
- Webcam and mic

You are responsible for having a reliable computer and internet connection throughout the course.

Email and Internet

You must have an active Doane University e-mail account and access to the Internet. *All instructor correspondence will be sent to your Doane* University *e-mail account.* Please plan on checking your Doane Gmail account regularly for course related messages.

This course uses Blackboard for the facilitation of communications between faculty and students, submission of assignments, and posting of grades. The Blackboard Course Site can be accessed at http://bb2.doane.edu

Submitting Assignments

All assignments, unless otherwise announced by the instructor, MUST be submitted via Blackboard. Each assignment will have a designated place to submit the assignment.

Campus Network or Blackboard Outage

When access to Blackboard is not available for an extended period of time (greater than one entire evening - 6pm till 11pm) you can reasonably expect that the due date for assignments will be changed to the next day (assignment still due by midnight).

Grade Scale

A+ = 97-100% A = 94-96% A- = 90-93% B+ = 87-89% B = 84-86% B- = 80-83%
C+ = 77-79% C = 74-76% C- = 70-73% D+ = 67-69% D = 64-66% D- = 60-63%
F= 59% or below

Participation Policy	A student is expected to be prompt and regularly attend on-ground classes in their entirety. Regular engagement is expected for on-line courses. Participation in class discussions is an integral part of your grade. (Faculty to insert any additional class participation; see resource page for ideas.)
Study Time	Expectation of the amount of time the course requires students to spend preparing and completing assignments. Typically, students could expect to spend approximately 12 hours a week preparing for and actively participating in this 8-week 3 credit hour course. This actual time for study varies depending on students' backgrounds.
Late Work	(Include expectations regarding late work; please see attachment for examples.)
Submitting Assignments	(Include expectations regarding students' submission of assignments, for example, in class or in Blackboard.)
Communication Policy including Assignment Feedback	(State your policy on timeliness of communicating with students and length of time needed before assignments will be graded, e.g. 48 hours.)

Academic Integrity Policy	Doane University expects and requires all its students to act with honesty and integrity and respect the rights of others in carrying out all academic assignments. Academic dishonesty, the act of knowingly and willingly attempting or assisting others to gain academic success by dishonest means, is defined in four categories: 1. Cheating - "Intentionally using or attempting to use unauthorized information or study aids in an academic exercise." 2. Fabrication - "Intentional and unauthorized falsification of invention or any information or citation in an academic exercise." 3. Facilitating Academic Dishonesty - "Intentionally or knowingly helping or attempting to help another to commit an act of dishonesty," and/or coercing others to do the same. 4. Plagiarism - "Intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise," in both oral and written projects. *Gehring, D., Nuss, E.M., & Pavela, G. (1986). Issues and perspectives on academic integrity. Columbus, OH: National Association of Student Personnel Administrators* For more information on the sanctions for academic dishonesty, please visit the website: https://catalog.doane.edu/content.php?catoid=16&navoid=1333
Academic Support	Please contact academicsupport@doane.edu https://www.doane.edu/graduate-and-adult/academic-support
Disability Services	https://www.doane.edu/disability-services Doane University supports reasonable accommodations to allow participation by individuals with disabilities. Any request for accommodation must be initiated by the student as soon as possible. Each student receiving accommodations is responsible for his or her educational and personal needs while enrolled at Doane University.
Military Services	https://www.doane.edu/graduate-and-adult/military
Anti-Harassment Policy	http://catalog.doane.edu/content.php?catoid=5&navoid=452

Grade Appeal Process	http://catalog.doane.edu/content.php?catoid=5&navoid=238
Credit Hour Definition	Doane University follows the federal guideline defining a credit hour as one hour (50 minutes) of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks (one semester), or the equivalent amount of work over a different time period (e.g., an 8-week term). This definition applies to courses regardless of delivery format, and thus includes in-person, online, and hybrid courses (combination of in-person and online). It also applies to internship, laboratory, performance, practicum, research, student teaching, and studio courses, among other contexts.
Syllabus Changes	Circumstances may occur which require adjustments to the syllabus. Changes will be made public at the earliest possible time.
Doane Syllabus Addendum	Each student is responsible for being aware of the policies, resources, and expectations as specified in the Doane Syllabus Addendum located at https://www.doane.edu/Syllabus.