University of New Hampshire
Peter T. Paul College of Business and Economics

BUSINESS STATISTICS - ADMN 420

Course Name: ADMN 420	Term: Fall	Year: 2019

Instructor: Christopher Glynn
Email: Christopher.Glynn@unh.edu
Office: PAUL 360M
Office Hours: Tuesday and Thursday 4:30 – 5:30 PM

Course Overview
This course will explore elements of statistical inference with applications in business decision-making, focusing on three modules in exploratory data analysis, probability models, and statistical inference. Instructors will present material via traditional lectures, online resources, hands-on problem solving, and statistical software. Students are expected to develop literacy in data analysis, understand key concepts such as the distinction between correlation and causality, and build linear regression models.

Prerequisites
ADMN 403, MATH 420 or 424A

Textbook (required)
OpenIntro Statistics, Diez, Cetinkaya-Rundel, and Barr, Fourth Edition

This book may be downloaded as a free PDF at www.openintro.org/os, or a printed version may be purchased at the bookstore click here for the bookstore

Course Description
"Introductory coverage of statistical methods for managerial decision-making: probability, descriptive and inferential statistics, and regression. Quantitative techniques common to many introductory statistics courses are covered, but the emphasis is on understanding concepts such as uncertainty, inferences from sample data, and model formulation, and on utilizing these techniques as aids in decision-making. No credit for students who have had ADM 430; BIOL 528; EREC 525; HHS 540; MATH 439; MATH 539; MATH 644; PYSC 402; SOC 502. Prereq: ADMN 403; MATH 420 or 424A."

Learning Objectives
Upon completion of this course, students will be able to:
1) Conduct thorough exploratory data analysis with appropriate visual and numerical summaries;
2) Construct probability models for business processes; and
3) Infer and interpret parameters in statistical models.

University of New Hampshire
Peter T. Paul College of Business and Economics

BUSINESS STATISTICS - ADMN 420

Course Name: ADMN 420	Term: Fall	Year: 2019

Learning Outcomes (program-level)

This course addresses the following Paul College BSBA learning objectives:

- 1.1 Students will demonstrate proficiency in the core content areas of business.
- 1.2 Students will think critically to address business situations.

Course Schedule

Week	Date	Topics Covered	Assignments and Due Dates
One	08/26 – 08/30	Data Collection: *Data basics, sampling principles, experiments*	• Read Chapter 1
Two	09/02-09-06	Histograms, Scatterplots, Descriptive Statistics: *Histograms, scatter plots, and Numerical data descriptive statistics*	• NO CLASS on 09/02: Labor Day • Read Chapter 2 • Complete HW 1 due on 9/8 by 11:59 pm
Three	09/09 – 09/13	Descriptive Statistics-cont'd Probability: *Categorical data descriptive statistics Probability rules, conditional probability, random variables, sampling from a small population*	• Read Chapter 3 • Complete HW 2 due on 9/15 by 11:59 pm
Four	09/16 – 09/20	Discrete Distributions: *Binomial distribution, Poisson distribution, geometric distribution, negative binomial distribution*	• Read Chapter 4.2-4.5 • Complete HW 3 due on 9/22 by 11:59 pm
Five	09/23 – 09/27	Continuous Distributions: *Normal distribution*	• Read Chapter 4.1 • Complete HW 4 due on 9/29 by 11:59 pm
Six	09/30 – 10/04	Review – Ch 1, 2, 3, and 4 Exam 1 on 10/3	• Review lectures of weeks 1 to 5 • Complete Practice Problems • No class on 10/4
Seven	10/15 – 10/18	Sampling Variability and Standard Errors:	• No Class on 10/14 (UNH Holiday)

University of New Hampshire
Peter T. Paul College of Business and Economics

BUSINESS STATISTICS - ADMN 420

Course Name: ADMN 420	Term: Fall	Year: 2019

		Sampling variability, point estimates, standard errors	• 10/15 follows Monday Schedule • Read Chapter 5.1 • Complete HW 5 due 10/20 by 11:59 pm
Eight	10/21 – 10/25	Confidence Intervals: *Confidence intervals for known and unknown variance*	• Complete HW 6 due 10/27 by 11:59 pm
Nine	10/28 – 11/01	Hypothesis Testing with known variance: *Hypothesis testing framework, one population z test, two population z test*	• Complete HW 7 due 11/03 by 11:59 pm
Ten	11/04 – 11/08	Review – Lectures Week 6 to 9 Exam 2 on 11/7	• Review lectures of weeks 6 to 9 • Complete Practice Problems • No class on 11/8
Eleven	11/12 – 11/15	Hypothesis Testing with unknown variance: *t distribution, one sample t test, paired t test*	• Read Chapter 7. 1 and 7.2 • Complete HW 8 due 11/17 by 11:59 pm
Thirteen	11/18 – 11/22	Hypothesis Testing with unknown variance – Cont'd: *Two population t tests, comparing many means by ANOVA*	• Read Chapter 7.3 and 7.5 • Complete HW 9 due 11/24 by 11:59 pm
Fourteen	11/25	Simple Linear Regression, Residuals, Model Assumptions: *Correlation between two variables*	• Read Chapter 8.1 • No Class on 11/27 and 11/29 – Thanksgiving Break
Fifteen	12/02 – 12/09	Simple Linear Regression, Residuals, Model Assumptions – Cont'd: *Fitting a line, residuals, least squares regression, inference for linear regression, intro to multiple regression* Final Exam Review	• Read Chapter 8.2-8.4 • Complete HW 10 due 12/8 by 11:59 pm
		FINAL EXAM – DATE: TBA	

University of New Hampshire
Peter T. Paul College of Business and Economics

BUSINESS STATISTICS - ADMN 420

Course Name: ADMN 420	Term: Fall	Year: 2019

Grades

Item	% or points	Requirements
Exams	70%	There are 2 exams and a final for this class. See details below regarding exams
Homework	20%	There will be 10 weekly homework for this class. See details below regarding exams
Activities	10%	There will be unannounced class activities/quizzes throughout the semester. See details below regarding exams

Your final course grade will be based on the following distribution:

Grades Scored Between	Will Equal
95% and 100%	A
90% and Less Than 95%	A-
87% and Less Than 90%	B+
84% and Less Than 87%	B
80% and Less Than 84%	B-
77% and Less Than 80%	C+
74% and Less Than 77%	C
70% and Less Than 74%	C-
67% and Less Than 70%	D+
64% and Less Than 67%	D
60% and Less Than 64%	D-
0% and Less Than 60%	F

Please note that extra credit points are not be awarded in this course

Assignment Details

Class Activities: (10%)
- There will be weekly open book in-class quizzes and activities throughout the semester. These frequently will reflect material that has recently been discussed in class.
- There will be no make-up for missed activities.

Homework: (20%)

University of New Hampshire
Peter T. Paul College of Business and Economics

BUSINESS STATISTICS - ADMN 420

Course Name: ADMN 420	Term: Fall	Year: 2019

- Homework will be assigned weekly over myopenmath.com
    - Course ID: 56608
    - Enrollment Key: Gauss
- No late homework will be accepted.

Midterm Exams: (20% each, 40% total)
- There are two midterm exams. The exams will cover readings, class presentations, discussions, exercises and handouts.
- Each exam is worth 20% of your final grade
- Exams will take place on common exam time, from 12:40 to 2 pm on 10/3 and 11/7.

Final Exam: (30%)
- The final exam will cover all the material from the beginning of the semester.
- Final exam is worth 30% of your final grade
- It will be during the final exam week, on a common final exam date and time. The actual time will be announced by the Registrar's Office later in the semester.

Policy on Late Submissions and Quizzes

All assignments must be submitted by 11:59 pm of the due date stipulated on the syllabus. No late assignments are allowed. There are no exceptions to this rule as you will be given ample time to complete assignments.

Class Participation

You will be responsible for reading the text and completing assignments as well as arriving for class in a timely manner. Please note that attendance is required but not sufficient to earn Activities points. Text messaging is strictly prohibited. Additionally, any student found to be surfing the Internet, instant messaging or otherwise using laptops inappropriately during class time will automatically forfeit ALL attendance/participation points.

You are expected to attend ALL classes. You will lose a portion of your class participation and attendance points for each absence. Attendance will be taken at random. Three class absences will absolutely and significantly affect your grade, as you will forfeit all of your attendance and participation points. An absence occurs when you miss part or all of a class. For example, arriving late for class will be recorded as a missed class.

The purpose of the class-absence policy is to accommodate illness or provide for participation in University activities such as class field trips, or participation in UNH sporting events as an

athlete. (See UNH athletic policy on absences. Note such "conflicts or anticipated absences must be submitted in writing to the professor before the end of the period for adding classes," taken from Policy on scheduling of Games and Practices, page 1.)

There is no need to bring notes from doctors or from the health clinic.

Student to Instructor Communication Expectations

I strongly prefer in-person communication, including questions and discussions. One-on-one communication can take place either at the beginning or end of class, or at office hours. However, I realize there are situations when e-mail communication is necessary. All e-mail messages <u>will</u> be responded to, but it may take several days for me to respond. Please plan your work accordingly. If you would like me to respond to your email it must be structured as follows: The subject line of the e-mail message must include the following: Course Number and Section. Message: E-mails, like all correspondence must be written in a <u>professional</u> manner.

Subject: ADMN 410 11:10 AM – Need clarification on Solver assignment

Dear …,

> *{Type your message here}*

Sincerely,

Jane Jones
ADMN 410 11:10 AM

Technical Requirements and Technical Support
See website listings for current recommendations and requirements related to this course - https://online.unh.edu/technical-requirements. Technical assistance related to Canvas is available at https://itsupport.unh.edu/mycourses/.

University Student Accessibility Accommodations
"According to the Americans with Disabilities Act (as amended, 2008), each student with a disability has the right to request services from UNH to accommodate his/her accessibility. If you are a student with a documented disability or believe you may have a disability that requires accommodations, please contact Student Accessibility Services (SAS) at 201 Smith Hall.

University of New Hampshire
Peter T. Paul College of Business and Economics

BUSINESS STATISTICS - ADMN 420

Course Name: ADMN 420	Term: Fall	Year: 2019

Please inform your instructor of your SAS documented conditions as soon as possible to ensure timely implementation of appropriate accommodations. Faculty have an obligation to respond when they receive official notice of a disability from SAS but are under no obligation to provide retroactive accommodations. For more information refer to http://www.unh.edu/studentaccessibility or contact SAS at SAS.office@unh.edu."

Academic Honesty and Plagiarism

Students are required to abide by the UNH Academic Honesty policy located in the Student Rights, Rules, and Responsibilities Handbook.

As your instructor, I proactively monitor academic integrity through regular use of tools like SafeAssign and a diversified assessment approach.   All work submitted to SafeAssign become a part of a UNH proprietary database. This is actively used to identify future intellectual property theft. Plagiarism of any type may be grounds for receiving an "F" in an assignment or an "F" in the overall course. Plagiarism is defined as "the unattributed use of the ideas, evidence, or words of another person, or the conveying the false impression that the arguments and writing in a paper are your own." (UNH Academic Honesty Policy, 09.3) Incidents are reported to the school dean and may be grounds for further action. If you have questions about proper citation refer to your department's writing guidelines. You can contact me at any time on this issue. Additional resources are located below:
http://libraryguides.unh.edu/unhmcitingsources
http://www.library.unh.edu/reference/citation.shtml

Note: This syllabus is subject to change. Students will be promptly notified of any changes. Once a change is announced on Canvas, it is considered official.

Emotional Health and Wellness

Your academic success and overall mental health is very important.   If, during the semester, you find you are experiencing emotional or mental health issues, please contact the University's Psychological and Counseling Services (PACS) **(3rd floor, Smith Hall; 603-862-2090/TTY: 7-1-1)** which provides counseling appointments and other mental health services.   If urgent, students may call PACS M-F, 8 a.m.-5 p.m., and schedule an Urgent Same-Day Appointment.