The University of Akron
Department of Management

Business Statistics
6500:304:002 (3 credits)
Fall 2020

Instructor Information		Class Information	
Instructor:	Matt Brenn, MBA	**Location:**	ONLINE (via Brightspace)
Email:	brenn@uakron.edu		
Office:	College of Business Administration (CBA) Room 333	**Time:**	Flexible (asynchronously - No live class meeting times.)
Phone:	(330) 972-5802		
Office Hours:	Monday/Wednesday/Friday 10:45am-12:45pm and by appointment via WebEx.		

Course Information

Course Description
Introduces statistical methods to support quantitative decision analysis for solving business problems. Includes: probability, sampling, estimation, hypothesis testing, correlation/regression analysis, and analysis of variance.

Prerequisites: 3450:145 (College Algebra) and 6200:250 (Spreadsheet Modeling and Decision Analysis)

Course Overview

Statistics is widely used in business to make decisions based on quantitative reasoning. Statistics gives the practitioner quantitative methods to describe, estimate the value of, and to make inference about important attributes of a population of interest. This course will lay the foundation for a more in-depth study of statistical methods, or simply provide the student with a basic understanding of how statistics is used to aid the decision-making process.

This course is supported by The University of Akron's learning management system called Brightspace. The Brightspace website will be the primary source used to complete homework and quizzes, and to post class notes, PowerPoint slides, reading materials, class assignments, announcements, etc. If you are new to Brightspace, you can get started by watching the tutorials here. It is required pre-work that you access and review course materials BEFORE class. Course communications will be through Brightspace and the class roster and via email. Make sure that you have your UA email forwarded to whichever email you check or directly accessible. (i.e. phone, tablet, etc.) I strongly suggest turning on notifications in BrightSpace so you can be alerted of new content, grades, announcements, etc.

Course learning objectives:
1. Explain the essential concepts and tools of statistics and probability
2. Demonstrate the use of statistics, probability, and statistical models to support decision making in business.
3. Exhibit problem solving skills necessary to analyze business data
4. Participate in a team that develops business research questions
5. Communicate the results of data analysis in terms of business needs

Specific Course Competencies:
By the end of the course, the student should be able to:
1. Use descriptive statistics to describe data both graphically and numerically
2. Use probability concepts to determine the probabilities of specific events

3. Analyze probability distributions of discrete random variables utilizing the expectations operator
4. Calculate probabilities associated with discrete and continuous probability distributions
5. Describe the behavior of the sampling distribution of a statistic based on the Central Limit Theorem
6. Utilize statistical inference techniques of: a.) confidence intervals, b.) one sample hypothesis tests, and c.) two sample hypothesis tests, to make a statement about the overall population based solely on a random sample or samples
7. Apply Chi-Square tools to evaluate goodness of fit and independence
8. Apply simple linear regression concepts to the analysis of business data
9. Describe/Utilize Analysis of Variance basic techniques

College of Business Administration Objectives
This course is part of the CBA core, and as such, it shares these learning objectives:
- Master integrated business knowledge
- Analyze data using quantitative techniques
- Be informed decision makers
- Develop leadership and collaboration competencies
- Use writing and oral communication skills to persuade and to mobilize action
- Demonstrate a global perspective and cross-cultural awareness
- Recognize and understand how to address ethical concerns

Required Materials
Holmes, Alexander, Barbara Illowsky, and Susan Dean. *Introductory Business Statistics*. OpenStax, 2017. *print* ISBN: 9781947172463; *digital* ISBN: 9781947172470 link to Holmes text here

Instructor Contact and Reply Policy
Email is the preferred method of communication for this course. Students should expect a response to emails within 24 hours on weekdays and 48 hours for a weekend or over a holiday. Submitted assignments will normally be evaluated and returned within 1-2 weeks.

Evaluation and Assessment

Grading:
Final grades are based on the total points earned from a maximum of 1000 course points. Individual assignment point values appear in the following table. Letter grades are assigned per the default University of Akron Grading Scale.

Grade Component	Points	Percentage of Final Grade
Lab Exercises	100	10%
Homework Assignments (10 @ 20pts)	200	20%
Exams (Midterm & Final) (2 @ 200pts)	400	40%
Preparation	100	10%
Team Project	200	20%
Total	*1000 Points*	*100%*

Grading Scale

Below is the grading scale that will be used in this course:

PERCENT	POINTS	LETTER	PERCENT	POINTS	LETTER
≥ 93 %	≥ 930	A	≥ 73 %	≥ 730	C
≥ 90 %	≥ 900	A-	≥ 70 %	≥ 700	C-
≥ 87 %	≥ 870	B+	≥ 67 %	≥ 670	D+
≥ 83 %	≥ 830	B	≥ 63 %	≥ 630	D
≥ 80 %	≥ 800	B-	≥ 60 %	≥ 600	D-
≥ 77 %	≥ 770	C+	< 60 %	< 600	F

Picture ID Requirement: *During examinations, students may be asked to display their University of Akron picture IDs by placing them on their desks*

Grade Component Description

Many class modules will involve a **Lab Exercise** that will involve the use of technology in Excel or JMP.

1. **Homework** will be administered through Brightspace. A total of 10 homework assignments, one per course module, will be assigned. Homework assignment due dates are generally Sunday at 11:59PM, on the date noted in the schedule provided with this syllabus. This is subject to change when necessary.

2. **Preparation** will be the completion of viewing class exercises videos. A total of 10 at 10 points a piece will be available.

3. **Unit Exams:** There will be 2 Exams. Mid-Term will be likely over Modules 1-4 (concepts and problem solving) and the Final will be likely be over Modules 5-10 (problem solving) and comprehensive regarding the concepts of the course. Exams will be held via Respondus Monitor/Lockdown Browser which requires the use of a Laptop/PC/Mac with a Webcam and must be set-up ahead of time.

4. **Team Project**: In general, the case assignments will consist of analysis using concepts learned in the course and an executive summary. Teams will consist of 3-4 students. More information will be provided when case is assigned. We are still sorting out what the case is going to look like and I will let you know when I know more. There will be a strong focus on an understanding of the concepts, analysis, professionalism, and communication skills.

Class Policies and Expectations

Attendance

No physical attendance required. This class is being delivered asynchronously. (No live class meeting times) Lecture notes and other documents are posted on the Brightspace course management website. It is the responsibility of the student to access the materials and be prepared for the week. Each student is expected to prepare for each week by reading and completing the associated problem solving work. Students are responsible for all material in the assigned readings unless otherwise advised. If anything is unclear, please ask questions.

Participation

You are expected to participate in this course as follows:
- You are responsible for completing and submitting all assignments to the appropriate Brightspace drop box before the due date. You are responsible for clearly labeling your assignments as requested in the assignment, in the requested format (generally either .docx or .pdf) so I can identify your submission.

Note that the University provides a Google Apps account to all students, and you can use Google Apps to create files in these file types.

- You are responsible for maintaining copies of your work and verifying that your Dropbox submission was received. You will receive an email confirmation when you submit assignments. You will be also able to track your submissions in Brightspace.
- You are responsible for completing all assignments before the due date.
- Technical challenges are not an acceptable excuse for missing deadlines. You must ensure that you have access to a working computer always. Please do not wait until the deadline to submit assignments.
  1. If you experience any technical issues with Brightspace, please contact ZipSupport (330-972-6888) and ensure that the issue is tracked though the Footprints ticketing system.
  2. If you experience any technical issues with Connect, please contact the Customer Experience Group (CXG) through McGraw Hill (800-331-5094.) Ensure that a ticket is opened to resolve any issues.
- If you have any questions or concerns about any of the assignments or your performance, please contact me immediately. Do not wait until the assignment is due or your performance cannot be rectified.

Late Assignments & Make-up Policies

Late homework and quiz assignments are not accepted. Do not wait until right before the due date to submit homework or assignments. In exceptional circumstances due dates may be extended for the entire class.

A **make-up exam** is available only in exceptional circumstances for students with excused absences and will be considered only if notification of your absence was given prior to the test (whenever possible), and documentation of your absence is provided before or after the exam.

University Policies

Withdrawal Policy

- A student may drop a course through the 14th calendar day of a semester or proportionately equivalent dates during summer sessions, intersession and other course terms. A "drop" will not appear on your transcript. The class simply "disappears."
- After the 14th calendar day period, students may withdraw from a course through Zipline until the 49th calendar day of a semester or proportionally equivalent dates during summer session, intersession, and other course terms. If you withdraw, a "WD" will appear on your transcript. You should know that *a withdrawal may affect your financial aid, eligibility for on-campus employment and eligibility for insurance*. Speak with your advisor for details.

- A student who leaves a course without completing the coursework and without going through the withdrawal procedure *will be given an "F"* for the course.

Questions regarding your registration can be addressed by the Office of the Registrar, 330-972-5400. The official University Withdrawal Policy is located here.

Incompletes

Permission to obtain an Incomplete is not common. For guidelines, consult the bulletin and discuss your specific situation with an advisor. You can find more information here:
http://www.uakron.edu/academics_majors/ub/important-policies/grade-policy-and-credit.dot

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Student Conduct and Community Standards

Professional and considerate behavior during class is expected. In addition, each student must submit his/her own work, or the work of the students and his/her assigned team members for group assignments. Plagiarism/Cheating of any kind may result in grade F for the course.

Integrity of scholarship is essential for the university community. The University community is governed by the policies and regulations contained with the Code of Student Conduct and enforced by the Department of Student Conduct and Community Standards, Simmons Hall 302, (330) 972-6380. The University of Akron Code of Student Conduct can be downloaded here.

It is each student's responsibility to know what constitutes student misconduct and academic dishonesty, and to seek clarification directly from the instructor if necessary. Examples of misconduct and dishonesty include, but are not limited to:

- Plagiarism (intentional or unintentional representation of ideas or works of another author or creator, in whole or in part, without properly citing the original source for those ideas or works).
- Use of unauthorized assistance in taking quizzes, tests, or examinations.
- Submitting substantially the same work to satisfy requirements for one course or academic requirement that has been submitted in satisfaction of requirements for another course, without permission of the faculty member
- Use of sources prohibited by the faculty member in writing papers, preparing reports, solving problems, or carrying out other assignments.
- Inappropriate acquisition and/or improper distribution of tests or other academic materials without the permission of the faculty member.
- Engaging in any behavior specifically prohibited by a faculty member in the course syllabus or during class discussion.
- Knowingly furnishing false or misleading information to university officials or faculty members.
- Engaging in or threatening physical abuse, verbal abuse, threats, intimidation, harassment, coercion, and/or other conduct which threatens the welfare or safety of any person.
- Disorderly or disruptive conduct.
- Behavior that the student knew or reasonably should have known would cause a disruption or obstruction of teaching or research.

Students that are suspected of having violated the Academic Misconduct provision in the Code of Student Conduct, action will be taken as outlined in the Code of Student Conduct. **Any incident of copying/plagiarism of an assignment in this class can be expected to result, at minimum, in an "F" in the course. Every member of an involved team will get the same grade whether they were actively involved with copying/plagiarism or not.**

Accessibility Statement
Any student who has a disability that substantially limits learning in a higher education setting may contact the Office of Accessibility for information regarding eligibility for reasonable accommodations. The office telephone number is (330) 972-7928 (Voice) or (330) 972-5764 (TDD). No special accommodations will be provided to students unless I have received information from that office.

Support

Technical Support
If you have computer or software questions or require technical assistance, please contact ZipSupport:
- By Phone: 330-972-6888

- By Email: support@uakron.edu.

The ZipSupport Help Desk web site for computer-related issues can be found here.
Brightspace self-help guides can be found here.

Academic Support

Research and Writing Support
The University of Akron provides free assistance to currently enrolled students at two main campus locations. Select the location name to access the website of each.

The UA Library
The UA library provides access to a significant number of online as well as traditional resources. Assistance in finding articles and conducting research can be found here:
http://libguides.uakron.edu/business_management

Bierce Writing Commons
Bierce Library, Rm. 68. For Appointments Call: (330) 972-6548
Polsky Writing Lab
303 Polsky Building. For Appointments Call: (330) 972-7046
Day and Evening Appointments Available for both services

Tutoring/eTutoring

Students looking for additional assistance outside of the classroom are advised to consider working with a peer tutor through Knack. The University of Akron CBA has partnered with Knack to provide students with access to verified peer tutors who have previously aced this course. To view available tutors, visit uakron.joinknack.com and sign in with your student account.

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WEEK	DATES (week of)	MODULE	Assignments
1	8/24	WELCOME AND COURSE OVERVIEW 01: STATISTICS, SAMPLING & STUDIES	
2	8/31	02: DESCRIPTIVE & VISUAL STATISTICS	HW 01
3	9/7	03: PROBABILITY	HW 02
4	9/14	04: PROBABILITY DISTRIBUTIONS	HW 03
5	9/21	04: PROBABILITY DISTRIBUTIONS *<cont.>*	HW 04
6	9/28	Mid-Term Review & Exam	
7	10/5	05: SAMPLING DISTRIBUTIONS 06: POINT & INTERVAL ESTIMATES	HW 05
8	10/12	06: POINT & INTERVAL ESTIMATES *<cont.>*	HW 06
9	10/19	07: HYPOTHESIS TESTING – ONE & TWO-SAMPLE	
10	10/26	07: HYPOTHESIS TESTING – ONE & TWO-SAMPLE *<cont.>*	HW 07
11	11/2	08: ANOVA	HW 08
12	11/9	09: LINEAR REGRESSION	HW 09
13	11/16	10: CHI-SQUARED TESTING	HW 10
14	11/23	GROUP PROJECT WORK TIME	
15	11/30	GROUP PROJECT WORK TIME & FINAL EXAM REVIEW	Group Project Due
FINALS	12/7	Final Exam Review & Exam	

Link to University's Academic Calendar https://www.uakron.edu/registrar/dates/acadcal.dot