



**Business Statistics
6500:304:002 (3 credits)**

Instructor Information		Class Information	
Instructor:	Matt Brenn, MBA	Location:	CBA Rm 131
Email:	mjb57@uakron.edu		
Office:	College of Business Administration (CBA) Room 333	Time:	MW 10:15a-11:30a
Phone:	(330) 972-5802		
Office Hours:	Office Hours: Wed 12pm-2pm, Thurs 12pm-4pm and by Appointment. WebEx also available.		

Course Information

Course Description

Introduces statistical methods to support quantitative decision analysis for solving business problems. Includes: probability, sampling, estimation, hypothesis testing, 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 and the CONNECT software provided by McGraw Hill. The Brightspace website will be primarily used to post class notes, PowerPoint slides, reading materials, class assignments, announcements, etc. Quizzes and Homework will be completed through Connect. 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.)

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 and multiple linear regression concepts to the analysis of business data

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](#)

The Holmes textbook will be the primary course textbook. Components may be utilized from an additional reference textbook, as enumerated and linked below:

Tiemann, Thomas, and Mohammad Mahbobi. *Introductory Business Statistics with Interactive Spreadsheets – 1st Canadian Edition*. BCcampus, 2010. [link to Tiemann 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 / Quizzes	100	10%
Homework Assignments (1 drop, 11 @ 30pts)*	300	30%
Unit Exams (2 @ 150pts)	300	30%
Final Exam (1 @ 100pts)	100	10%
Team Project (1 @ 200pts)	200	20%
Total	1000 Points	100%



*lowest score dropped

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

Most class modules will involve a **Lab Exercise** or **Quiz** to be completed and submitted during class time allotted for this purpose.

1. **Homework** will be administered through Brightspace. A total of 11 homework assignments, one per course module, will be assigned. The highest ten of these scores will contribute to the overall homework grade. 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. **Unit Exams:** Exams will be 150 points each. There will be 2 Unit Exams (Modules 1-5 & Modules 6-9) and a final exam. The Unit Exams will generally be problem solving and short answer over the topics covered in the format that we cover in class examples. The Final Exam will be multiple choice covering concepts learned only and will have minimal calculation.
3. **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

Lecture notes and other documents may be posted on the Brightspace course management website. It is the responsibility of the student to access the materials and be prepared for class. Each student is expected to prepare for each class meeting by reading in advance and completing the associated Pre-work. Students are responsible for all material in the assigned readings, whether it is specifically covered in class, unless otherwise advised. If anything is unclear, please ask questions.

Just showing up is not enough. Each student is expected to come to every class prepared to discuss otherwise interact with classmates concerning the materials assigned. I will evaluate your contributions in the classroom. Assume that you will be learning as much from each other as you will from the instructor – then make sure it happens! Because participation requires attendance it is important that you come to class. Attendance and



Participation go hand and hand. I reserve the right to change your grade based upon your attendance and participation.

Participation

You are expected to participate in this course as follows:

- You are responsible for completing and submitting all case 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 Connect 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 through 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.

Electronic Devices

Please be considerate of your classmates and do not use cell phones during class. Laptops and tablets may be used for note taking only. Please bring calculators to class on a regular basis. Calculators (**no cell phones**) will be needed for the exams and they may not be shared on exam days.

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 (Connect homework site down for extended period, etc.) 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 (**September 9, 2018 for the Fall 2018**) 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 **October 14, 2018 for Fall 2018** of a semester or proportionately 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

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.

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

A limited amount of tutoring will be available through Management Department during the semester. See the tutoring schedule posted in Brightspace. In addition, The University of Akron also offers online tutoring, called eTutoring, which is provided through the Ohio eTutoring Collaborative. Students at The University of Akron have access to online tutoring in Writing and Statistics. eChat will allow you to meet with a tutor in one-on-one tutoring sessions via a fully interactive, virtual online environment. Offline questions will allow you to leave a specific question for an eTutor, who will respond within 48 hours (but usually sooner). [Select this link to learn more about eTutoring services.](#)



Tentative Schedule

Week	Data	Topic	Assignments due by 11:59PM
1	27-31 aug	WELCOME AND COURSE OVERVIEW 01: STATISTICS, SAMPLING & STUDIES	HW 01 due 9/9
2	03-07 sep <i>(no classes Mon 03 sep)</i>	02: DESCRIPTIVE & VISUAL STATISTICS	HW 02 due 9/9
3	10-14 sep	03: PROBABILITY	
4	17-21 sep	03: PROBABILITY <cont.> 04: PROBABILITY DISTRIBUTIONS	HW 03 due 9/23
5	24-28 sep	04: PROBABILITY DISTRIBUTIONS <cont.>	HW 04 due 9/30
6	01 – 05 oct	EXAM 1 05: SAMPLING DISTRIBUTIONS	
7	08-12 oct	05: SAMPLING DISTRIBUTIONS <cont.> 06: POINT & INTERVAL ESTIMATES	HW 05 due 10/14
8	15-19 oct	06: POINT & INTERVAL ESTIMATES <cont.>	HW 06 due 10/21
9	22-26 oct	07: HYPOTHESIS TESTING – ONE-SAMPLE	
10	29 oct – 02 nov	07: HYPOTHESIS TESTING – ONE-SAMPLE<cont.> 08: HYPOTHESIS TESTING – TWO-SAMPLE	HW 07 due 11/4
11	05-09 nov	08: HYPOTHESIS TESTING – TWO-SAMPLE<cont.>	HW 08 due 11/11
12	12-16 nov	EXAM 2 09: CHI-SQUARED TESTING	HW 09 due 11/18
13	19-23 nov	10: SIMPLE LINEAR REGRESSION	HW 10 due 11/25
14	26-30 nov	11: MULTIPLE LINEAR REGRESSION	HW 11 due 12/2
15	03-07 dec	REVIEW/GROUP WORK	
FINALS	10-14 dec	FINAL EXAM	002: 12/10 12:15-2:15