Business Statistics **Fall 2014** **Dr. Osyk**

6500:304-004 T TH 3:15 – 4:30 pm **CBA 144**

Instructor: Dr. Barbara A. Osyk bao@uakron.edu
OFFICE: CBA 368 330-972-5439
OFFICE HOURS: T TH 8:30 – 9:00 am, 1:30 – 3 pm
(And by appointment)

Textbook & Course materials: Bowerman, B., O'Connell, R., Orris, J., *Essentials of Business Statistics*, Student Value edition, McGraw Hill Irwin 2014. ISBN 9781259393488 (available in the CBA bookstore.) It is recommended that you buy this book through the bookstore so that you will have access to the loose-leaf copy of the book, CONNECT Plus (with the eBook) & the Megastat (Excel add-on) software. ***The cost for the complete package (loose-leaf book, Connect Plus with eBook, Megastat) is $142.85. Important: Please keep this book because you will need it for Business Analytics – note that your Connect Plus access code (with eBook access) will also be available for 540 days for this book if you purchase the package through the bookstore.***

Register for CONNECT using the code with your book and this course access information:

http://connect.mheducation.com/class/osyk-bstat-fall2014-15-week

Alternatively, you can purchase Connect (no eBook) separately for $65 or Connect Plus (with eBook) for $130 but this will not include extended access.

Register for the Megastat software separately through www.mhhe.com/megastat. Use the code included with your book (or the cost to purchase separately is $ 15.50.) Note that you need to download Megastat to your computer within 10 days of actually purchasing it. Megastat is also available in the CBA labs.

Lecture materials and communication: The Springboard course management website will be primarily used to post class notes, PowerPoint slides, reading materials, class assignments, announcements, etc. It can be accessed by following this link: http://springboard.uakron.edu. It is strongly suggested that you access and review materials BEFORE class. Course communications will be through Springboard and the class roster. Make sure that you have your UA email forwarded to whichever email you check.

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

Course learning objectives:

1. To master the essential concepts and tools of statistics and probability, and to apply these methodologies to solve practical, real-world, problems emphasizing business applications.
2. To provide a sound basis in statistics and probability for the student's future academic and professional careers.
3. To demonstrate the use of statistics, probability, and statistical models to support decision making in business.
4. To develop the critical thinking and independent problem solving skills necessary to independently analyze business data and model business situations.
5. To work in a team to develop business research questions and effectively communicate the answers to those questions.

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 confidence intervals and hypothesis tests to make a statement about the overall population based solely on a random sample or samples
7. Analyze statistical relationships with scatter diagrams and correlation analysis
8. Apply the techniques of bivariate regression in analyzing statistical relationships
9. Apply design of experiment concepts and ANOVA to the analysis of business data
10. Apply Chi-Square tools to evaluate goodness of fit and independence

Course requirements and grading:

THREE UNIT EXAMS		
EXAM 1 (CH 1 -6)	**60**	
EXAM 2 (CH 7 – 10)	**60**	
EXAM 3 (CH 11-13)	**50**	
ONGOING TEAM CASE (HAZARDOUS PARTS)	**100**	
4 PARTS @ 25 POINTS EACH		
COMPREHENSIVE FINAL EXAM	**50**	
CONNECT HOMEWORK (HIGHEST 8 OF 11 ASSIGNMENTS)	**80**	
TOTAL	**400**	**POINTS**

Grading will be based on percent of total points earned. Letter grades will be assigned as follows, and are **guaranteed as a lower bound**:

Grading scale: 372-400 A; 360-371 A-; 348-359 B+; 332-347 B; 320-331 B-; 308-319 C+; 292-307 C; 280-291 C-; 268-279 D+; 253-267 D; 240-252 D-; < 240 F

Unit Exams will be closed book and closed notes but one 8-1/2 x 11" sheet of notes (both sides) will be permitted. Specified tables and a calculator will also be needed. Calculators will also be permitted and should be brought to every class period. Exams will consist of multiple choice, true/false, problems, and short answer questions. 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.

The Final Exam will consist of 50 multiple choice and true/false questions and will be closed book, closed notes, with no calculator needed or permitted.

The "hazardous parts case" is an ongoing case study using data collected during week two of the course. In general, the case assignments will consist of analysis (using statistical software) and an executive summary. Teams will be assigned by the instructor and will be made up of 3-4 students. More information will be provided when the first case is assigned.

Connect Homework will consist of both problems and multiple choice/true-false questions. 11 assignments will be made, and students will generally have about one week to complete them after the material is covered in class. The highest 8 of 11 assignment grades will count towards the final grade.

General Policies and Comments:
Lecture notes and other documents will be regularly posted on the Springboard course management website. It is the responsibility of the student to print out the materials and bring them to class.

Each student is expected to prepare for each class meeting by reading in advance the assigned chapters or sections. Students are responsible for all material in the assigned readings, whether or not it is specifically covered in class, unless otherwise advised. In addition, each student **is expected to attend**, and to participate in, **all** class meetings. Books and calculators should be brought to every class.

Professional and considerate behavior during class is expected. Please arrive on time and turn off cell phones and pagers. If you must leave class early, please do so with minimal disruption and do not disrupt the class again by returning. Avoid unnecessary personal conversations. **Reading newspapers or other books or materials not related to the class will not be allowed.** No cell phones, iPods, etc. may be used during class and exam times.

Academic Integrity:

Each student must work on, complete and submit his or her own individual work, except for group assignments. Please be aware of the university policy on academic dishonesty. This includes but is not limited to:

- *Submission of an assignment, quiz or exam as the student's original work when that work is entirely or partly the work of another person.*
- *Failure to appropriately cite references from published or unpublished works or print/non-print materials.*
- *Providing and/or receiving information from another student on the exam other than the instructor*
- *Observing or assisting another student's work.*
- *Cooperation with a person involved in academic misconduct.*

My standard policy is to fail from the course any student that engages in academic misconduct and/ or dishonesty. Students may also be referred to the office of Student Judicial Affairs for further disciplinary action. The University of Akron policy on Academic Integrity will apply.

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

Accessibility: *If you believe that you may need an accommodation based on the impact of a disability, please consult www.uakron.edu/access and contact the Office of Accessibility at 330-972-7928. The office is located in Simmons Hall, 105.*

Check your UA e-mail often. I will occasionally send notices to the class via the class roster/Springboard.

Dropping or withdrawing from this class

The university guidelines are below:

- You may **drop** a class up through September 8, 2014. A "drop" will not appear on your transcript. The class simply "disappears."

- You may **withdraw** from a class between September 9, 2014 and October 13, 2014 through MyAkron (no signatures required).

- If you do not drop or withdraw, you will receive a grade in the class.

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 adviser for details.

For undergraduate students only:

- You must consult your academic adviser
    - before withdrawing from more than two courses before you have earned 32 credits; and
    - before withdrawing from more than two courses after you have earned 32 credits but before you have earned 64 credits. (This does not count withdrawals that occurred before you earned 32 credits.)
- You may not withdraw from more than four courses before you have earned 64 credits. You may not withdraw from the same course more than twice. Exceptions may be made for extraordinary non-academic reasons (e.g., medical treatment or convalescence, military service). See your adviser.

This is a summary of the withdrawal rules. Your adviser can answer specific questions.

Attached is a **tentative** schedule of reading assignments, exams, and other activities for this course. The schedule is subject to change and changes if any will be announced in class. It is the student's responsibility to be aware of any changes or additions.

BStat **Tentative Schedule** **Fall 2014**

Week	DATES	READINGS / TOPICS	Exams and Case due dates (all cases due to drop box by 11:59 pm)
1	T 8/26 TH 8/28	Overview of Course /Review of Descriptive Statistics & Selected Topics- Chapters 1-3	
2	T 9/2 TH 9/4	Chapter 4: Probability Collect data for hazardous parts cases	
3	T 9/9 TH 9/11	Chapter 4 (cont.) Chapter 5: Discrete Random Variables	***M 9/8 – Last Day to "drop" course***
4	T 9/16 TH 9/18	Chapter 5 (cont.)/Team time Chapter 6: Continuous Random Variables	TH 9/18 – Case Part One is due
5	T 9/23 TH 9/25	Chapter 6 (cont.) & Review	TH 9/25 – Exam 1: Chapters 1-6
6	T 9/30 TH 10/2	Chapter 7: Sampling & Sampling distributions Chapter 8: Confidence Intervals	
7	T 10/7 TH 10/9	Chapter 9: Hypothesis Testing	
8	T 10/14 TH 10/16	Chapter 9: Hypothesis Testing (continued) No class on Thursday - Team time	***M 10/ 13 – Last day to withdraw from course***
9	T 10/21 TH 10/23	Chapter 10: Statistical Inference based on two samples	T 10/21 - Case Part Two is due
10	T 10/28 TH 10/30	Review and Catch up	TH 10/30 – Exam 2: Chapters 7-10
11	T 11/4 TH 11/6	Chapter 11: Experimental Design & ANOVA	TH 11/6 - Case Part Three is due
12	T 11/11 TH 11/13	Chapter 13: Bivariate Regression	
13	T 11/18 TH 11/20	Chapter 12: Chi-Square tests	
14	T 11/25 TH 11/27	No class on Tuesday –Team time Happy Thanksgiving!	Sa 11/29 - Case Part Four is due
15	T 12/2 TH 12/4	Review and Catch up	TH 12/4 – Exam 3: Chapters 11-13
16	TH 12/11	***Final Exam during scheduled final exam time Thursday 12/11 from 4:45 – 6:45 pm***	***TH 12/11 – Final Exam***