Business Analytics I
Time: Monday 06:00pm - 08:50pm Lindner 216

I.   Course Information:
Title: Business Analytics I
Course #: BANA2081-012
Credit Hours: 3
Term: Fall 2018
Prerequisites: MATH1044, Applied Calculus I, MATH1046, Business Calculus, or MATH1060, Calculus I with Pre-Calculus Review, or MATH1061, Calculus I.

II. Instructor Information:
Name: Xiaorui Zhu
Office Information: LCB, Room 534, Lindner Hall
Email: zhuxr@mail.uc.edu
Office Hours: Thu 3:30-4:30PM in 534 Lindner Hall or by appointment
Communication Policy: Students are encouraged to contact me anytime via email. A response will be given within 36-48 hours except on weekends.

III. Course Materials
- **Required**
  Statistics for Business and Economics, 13th Edition Revised, Anderson, Sweeney, Williams, Camm & Cochran, South-Western, Cengage Learning (2018). (Read the Homework section of the syllabus before acquiring the text.)

- **Other Required Resources**
  Excel 2016 for Windows will be used in the text and the lectures. Students may purchase Microsoft Office 2016 at a discounted price at the UC Bookstore. Mac users can run Windows using Mac's Boot Camp (supported by LCB IT staff), or access the computer labs Windows environment using VMware.
  http://business.uc.edu/technology/services/ucvlabs.html

IV. Course Description:
This course develops fundamental knowledge and skills for applying statistics to business decision making. Topics include descriptive statistics, probability distributions, sampling, confidence intervals, hypothesis testing and the use of computer software for statistical applications.

V. Student Learning Outcomes:
Upon successful completion of this course, the learner will be able to:

1. Organize and summarize data using appropriate descriptive statistics and graphical methods;
2. Understand the concept of probability and be able to calculate probabilities required in order to perform statistical inferences;
3. Understand the concept of a random variable and use discrete and continuous random variables and their corresponding distributions to calculate probabilities;
4. Understand the concept of a sampling distribution and be familiar with the primary sample statistics and their distributions;
5. Estimate population parameters using point estimates and confidence intervals;
6. Given a research question, formulate appropriate null and alternative hypotheses, choose a test statistic, describe the rejection criteria, make a decision using a critical value and/or p-value, and draw an appropriate business conclusion.

VI. Instructional Methods (Including Description about Bb):
The following course utilizes the Blackboard (Bb) Learning Management System to provide student-centered online learning that will enhance the teaching and learning process. Through a variety of instructional methods (e.g. discussion boards, video lectures, readings, online assessments, etc.) the learner will become immersed and engaged in the learning process. If you are not familiar with these tools, please visit https://kb.uc.edu/kbarticles/blackboard-landing.aspx.

VII. Course Communication:
University policy requires that the email set up in Blackboard is the primary means of communication. It is advisable that you use your UC email for this purpose and that you check it often. If you choose to change your email in Blackboard to a non-UC email it is your responsibility to ensure you check it frequently. Please see the attached Student Email Policy for more information: http://www.uc.edu/content/dam/uc/infosec/docs/general/Policy_StudentEmail.pdf.

VIII. Course and Grading Policies:
1. *Course Structure:* Changes to the syllabus, due dates, course requirements or grading requirements will be made as far in advance as possible. Due dates will be clearly marked in Blackboard. All assignments will be submitted via Blackboard using a Word document, PDF document or an Excel document.
2. *Academic Integrity:* As with all Lindner College of Business efforts, in this course you will be held to the highest ethical standards, critical to building character. Ensuring your integrity is vital and ultimately is your responsibility. To help ensure the alignments of incentives, the Lindner College of Business has implemented a "Two Strikes Policy" regarding Academic Integrity that supplements the UC Student Code of Conduct (see: http://www.uc.edu/conduct/Code_of_Conduct.html)
   - Academic misconduct includes: aiding and abetting academic misconduct, copying other students' assignments, failure to adequately cite or reference, cheating, fabricating information, plagiarizing, and violating ethical or professional standards etc.,
   - Students will be afforded due process for allegations as outlined in the policy,
   - Instructors are required to report any incident of academic misconduct to the

college review process which could result in severe consequences, including potential dismissal from the college based on the colleges "Two Strike Policy".

3. *Disability:* As Students with disabilities who need academic accommodations or other specialized services while attending the University of Cincinnati will receive reasonable accommodations to meet their individual needs as well as advocacy assistance on disability-related issues. Students requiring special accommodation must register with the Disability Services Office. http://www.uc.edu/aess/disability.html.

4. *Criteria for letter grades:*
Your course grades will be based on your performance on the following:

Point Allocation:

Homework	$30 \times 3 = 90$ Points	18%
Excel Labs	$30 \times 2 = 60$ Points	12%
Quizzes (best 5 out of 7)	$20 \times 5 = 100$ Points	20%
Mid-term Exam	100 Points	20%
Final Exam(Comprehensive)	150 Points	30%
Total Points Available	**500 Points**	**100%**

5. *Grading Scale*
The final grade will be based on total number of points earned out of 500.

460 - 500	A		360 - 389	C
450 - 459	A -		350 - 359	C -
440 - 449	B +		340 - 349	D +
410 - 439	B		310 - 339	D
400 - 409	B -		300 - 309	D –
390 - 399	C +		Below 300	F

The instructor reserves the right to adjust grading scale if it appears necessary due to overall class performance. These adjustments will only raise a student's grade, not lower it.

6. *Description of Major Assignments*
- *Homework and Labs:*   **(5 @ 30 pts. each)**
    o Homework is done on-line using MindTap. Each homework assignment regardless of points is of equal value to the final grade. MindTap can be accessed directly from Blackboard. The semester cost for MindTap is $76.95 and contains an eBook version of the class text. There will be homework assignments due at the end of each Chapter. Each assignment will be available until **11:59 PM on the day it is due**. (There is a 10% per day penalty for late assignments regardless of excuse.)
    o 2 Excel labs need to be submitted on Blackboard. I will walk through part of the Excel Labs in class and leave the rest as assignments. They must be uploaded to Blackboard before the end of class.
- *Quizzes*:   **(5 @ 20 pts. each)**

- o Starting with Chapter 2, there will be a quiz at the end of each chapter. Quizzes will be completed in class through Blackboard. Preparation for quizzes will require reading the Statistics in Practice section at the beginning of each chapter and the PowerPoint slides for the chapter. The PowerPoint slides can be found on Blackboard or MindTap. **The two lowest quiz scores will be dropped from the final grade**.
- *Exams***: (2 @ 100 & 150 pts.)**
  - o Like quizzes, all exams will be completed in class through Blackboard. Exams will be a combination of multiple choice and computational questions that may require the use of Excel. **The exams will be open book and open notes** and will be taken in Lindner 216. One mid-term exam and a final exam will be given. Students are expected to take both exams. In case of an emergency, the student must contact the instructor to request an excused absence. **Only one excused absence will be granted. All students must take the final exam.**

7. *Academic Support:*
   - *One-on-One Tutoring:* Peer Tutoring is offered for this course by the Learning Assistance Center (LAC.) Tutoring sessions are designed to allow students to work one-on-one with a qualified and trained peer tutor to address course content and study skills. Students may schedule appointments online at LAC. For more information about the tutoring program as well as days, times, and scheduling instructions, please refer to the LAC website: www.uc.edu/tutoring
   - *Math concepts:* Math Minute is a video series created for students by the LAC tutors that serves as an introduction to basic math concepts. Please check and view math topics if you have any relevant questions: Math Minute.

IX. Course Schedule:

Week	Date	Topic	Sections in Text	Assignment Due
Week 1	08/27/2018	Syllabus, Introduction	Chapter 1	
		Data & Statistics	Chapter 1	
		Tabular and Graphical Displays	Chapter 2	
Week 2	09/03/2018	Holiday: Labor Day		
		Holiday: Labor Day		
		Holiday: Labor Day		
Week 3	09/10/2018	Tabular and Graphical Displays	Chapter 2	
		Tabular and Graphical Displays	Chapter 2	
		Descriptive Statistics	Chapter 3	**Quiz1**
Week 4	09/17/2018	Descriptive Statistics	Chapter 3	
		Descriptive Statistics	Chapter 3	
		Introduction to Probability	Chapter 4	**Quiz2**
Week 5	09/24/2018	Introduction to Probability	Chapter 4	
		Probability	Chapter 4	
		Relationships of Probability	Chapter 4	
Week 6	10/01/2018	Conditional Probability	Chapter 4	**HW1 Due, Quiz3**
		Random Variables	Chapter 5	
		Discrete Probability Distributions	Chapter 5	
Week 7	10/08/2018	Discrete Probability Distributions	Chapter 5	**Quiz4**
		Discrete Probability Distributions	Chapter 5	
		Discrete Probability Distributions	Chapter 5	
Week 8	10/15/2018	Continuous Probability Distributions	Chapter 6	
		Continuous Probability Distributions	Chapter 6	
		Continuous Probability Distributions	Chapter 6	**Excel Lab 1**
Week 9	10/22/2018	Extra Exercises and Review		
		Extra Exercises and Review		
		Mid-term Exam		**Mid-term Exam**
Week 10	10/29/2018	Continuous Probability Distributions	Chapter 6	
		Sampling and Sampling Distributions	Chapter 7	
		Sampling and Sampling Distributions	Chapter 7	**Quiz5**
Week 11	11/05/2018	Interval Estimation	Chapter 8	**HW2 Due**
		Interval Estimation	Chapter 8	
		Interval Estimation	Chapter 8	
Week 12	11/12/2018	Holiday: Veterans Day		
		Holiday: Veterans Day		
		Holiday: Veterans Day		
Week 13	11/19/2018	Interval Estimation	Chapter 8	
		Hypothesis Tests	Chapter 9	
		Hypothesis Tests	Chapter 9	**Quiz6**
Week 14	11/26/2018	Hypothesis Tests	Chapter 9	
		Hypothesis testing for a single population proportion	Chapter 9	
		Hypothesis testing for a single population proportion	Chapter 9	**Excel Lab 2**
Week 15	12/03/2018	Two-sample estimation and testing – means	Chapter 10	**HW3 Due**
		Review		
		Review		**Quiz7**
Week 16	12/10/2018	**Final Exam**		**Final Exam**

The instructor reserves the right to revise the syllabus.