UNIVERSITY OF CENTRAL ARKANSAS
COLLEGE OF BUSINESS
VISION, MISSION, AND CORE VALUES STATEMENT

COB Vision

Our vision is to be a recognized leader in developing business talent and ideas that create growth and opportunity in Arkansas and globally.

COB Statement of Mission and Core Values

We educate a diverse population of current and future business professionals to successfully and ethically meet the challenges of the global business environment. Through active engagement with the local, regional, national, and global communities, our faculty strive to deliver a high-quality business education via experiential education, a relevant curriculum, and scholarly contributions. We pursue continuous improvement opportunities to add value for our College and its stakeholders.

In carrying out this mission, the College of Business is guided by the following core values and expects the following outcomes:

1. **Intellectual Excellence.**
   1.1. Educate students: We promote intellectual and professional development of students by emphasizing communication, critical and analytical thinking, collaboration, information management and a broad exposure to key business disciplines.
   1.2. Scholarship: We believe that faculty and students should engage in professional development and scholarly endeavors that promote and impact the application, creation and dissemination of knowledge through contributions to business practice, learning and pedagogical research, and discipline-based scholarship.
   1.3. Cultural competence: We maintain and develop current and responsive curriculum that prepares students for the global business environment through broad exposure to key business disciplines.
   1.4. Physical learning environment: We strive to provide a physical infrastructure with appropriate technology that provides an environment in which our students and faculty can thrive professionally and intellectually.
2. **Community.**
   2.1. Collegiality: We encourage transparency in our decision making practice through a process of shared governance based on interactions among faculty, staff, and students.
   2.2. Service: We pursue collaborative partnerships between our internal and external stakeholders to impact and promote life-long and experiential learning, research, service, and community engagement.
3. **Diversity.**
   3.1. We value the opportunity to work, learn, and develop in a community that embraces the diversity of individuals and ideas.

4. **Integrity.**
    4.1. Ethics: We are committed to ethical and responsible behavior in our own actions and to developing the same commitment in our students by promoting the awareness of professional ethical responsibilities.
    4.2. Responsibility: We commit to being responsible and accountable in our operations at all levels, including assessment and continuous improvement of our academic programs and transparency in our fiscal and operational proceedings.

Learning Goals

Our graduates shall possess:

1. Critical Thinking & Analytical Thinking Skills;
2. Awareness of the Global Business Environment;
3. Ethical Reasoning Abilities;
4. Effective Communication Abilities;
5. Effective Collaborative Skills;
6. Understanding of a Broad Range of Business Disciplines.

Course Syllabus

Course Information

Course Number:		QMTH 3325
Course Name:		Data Analysis
CRN:		22357
Semester:		Spring 2019
Location:		COB 302
Class Hours:		Tu/Th 9:25 to 10:40 AM

Instructor Information

Name:		Kaye McKinzie, Ph.D.
Office Location:		COB 305C
Work Email:		**kmckinzie@uca.edu**
Phone:		501.450.5328 Fax: 501.852.2473
Office Hours:		Mondays 5 AM – 3 PM ONLINE by appointment. Tuesday & Thursday 8 – 9 & 1 – 3. Wednesday 8 – 3. Online students by arrangement.

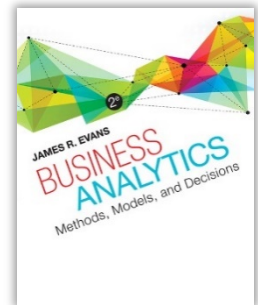**Prerequisites:** QMTH 2330 or equivalent.

Textbook and Instructional Materials Required: The primary text is: Evans, James R.. (2016) 2 ed. Business analytics: methods, models, and decisions. Pearson publishing. ISBN-13: 9780321997913

Pearson Course Smart has a digital rental of this text for about 40% price. But we will NOT be using any of the other online material from Pearson.

In addition we will rely heavily on MS Excel and SAS or SPSS software.

Course Description: This course is undergoing a transformation as part of the analytics program in the MIS department. This course is going to be focusing on Predictive Analytics. The data cleaning and exploratory data analysis (EDA) portions are shifting to the Data Mining and Data Visualization courses. The data modeling is being covered in the Predictive Analytics and Python courses. What remains is the regression and forecasting aspects of this course. This allows this course to focus on these techniques and also introduce logistic regression for the first time.

Formal: This course is an option for Finance and Management Information Systems (MIS) Business Analysis Concentration majors. Lectures emphasize computer use to solve problems and interpret results. The course includes in-depth study of experimental design, data cleaning, exploratory data analysis, confirmatory data analysis and data modeling. Spring. 3.0 Credit hours.

Course Objectives:

- Design predictive analysis models for a specified problem based on problem solving methodologies.
- Select appropriate predictor variables after testing their viability in the model.
- Create combined variables for inclusion in regression models.
- Design and test single variable linear regression models.
- Design and test multiple variable linear regression models.
- Design and test logistic linear regression models.
- Develop forecasting modules based on data patterns and predictor variables.
- Present analytical results and findings in writing.

Course Delivery Method:

Hybrid: In class and via blackboard online. This semester, class attendance is required on Tuesdays. Thursdays are reserved for labs. Students who do not have at least a B average are strongly encouraged to attend labs. During exam weeks, students may elect to take their exam in person or online. However, to take the exam online you will need a high speed internet connection and a camera.

This course is taught in a classroom where students may either use their own laptop or check out a UCA laptop during class. Outside of the class time, students may elect to work on their assignments at a location of their choosing. The UCA COB computer labs have all the required software (MS Excel 2016, MS Word, and SPSS). Assignment distribution and submission is done online via *blackboard*. Students may want to do a quick refresher of their Excel skills for this course.

Online for UCO (FOUP) students: This semester we are opening this class up to a limited number of FOUP students. This is restricted to UCO (fully online BBA) students. Their class is cross listed with yours and you will be engaging with them in the discussion rooms.

Grading: Grades will be assigned according to the following scale:

Table 1. Letter Grade

A. $\geq$ 90
B. $\geq$ 80 and $<$ 89.99%
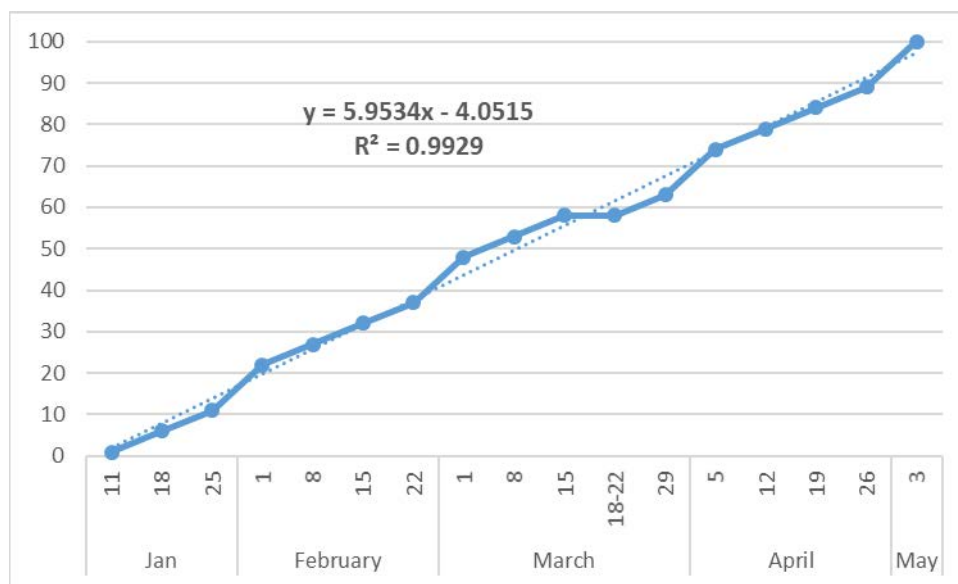C. $\geq$ 70 and $<$ 79.99%
D. $\geq$ 60 and $<$ 69.99%
F. $<$ 60

The various components of your grade are weighted as follows. There are a total of 100 course points earned for both individual and team work. The distribution of points is noted both in **Table 2** and in the description of course requirements.

Table 2. Grading Rubric

	Points	Quantity	Total
Discussions	1	12	12
Data Set	4	11	44
So what?	3	4	12
Exam	8	4	32

Practice Exams cannot hurt your course grade (except for academic misconduct). The score you earn on the Practice Exam is added to your actual Exam score for a maximum of 8 course points.) The course points are distributed throughout the semester as indicated in **Figure 1**. The strong correlation indicated in this chart and the fitted line show a relatively smooth distribution.

Figure 1. Cumulative Course Points Distribution

$y = 5.9534x - 4.0515$
$R^2 = 0.9929$

Final course letter grades are earned based on points accumulated during the semester. These grades are visible in Blackboard which shows a running total. By the end of the semester when you have turned in all assignments the total points earned equates to the letter grades shown in **Table 1**. Throughout the semester students may calculate their grade at any point by dividing the running total by the total points available to date. (Note: Blackboard will not calculate the running total correctly if you fail to submit a requirement because it will fail to add this to the denominator.)

Description of Major Deliverables/Course Requirements:

<u>All deliverables may be turned in early.</u> If submitted at least 48 hours in advance of their due date (except practice exams and exams), constructive feedback will be provided ONCE ONLY. This enables students to make adjustments to the product and improve their understanding of the material and their grade on the assignment. Assignments must be submitted as an attachment

(MS Word, MS Excel, or SAS/SPSS) to the Blackboard assignment and not in the text editor. No other file format will be accepted. Make sure all reference files are attached.

Computer.

This course requires significant computer use. Students who elect to do their homework, labs and/or exams outside of class will need an IBM compatible PC (not a MAC), high-speed internet connection and camera. Students are encouraged to save all information on an internet based storage site (such as Google Docs) and not on the CPU in class as other classes use these computers. All homework can be done either in the computer lab or on a computer of the student's choosing.

Students are advised against using Mac based computers for coursework in this course as the applications work differently than on IBM PC compatible devices.

Attendance.

Two absences will result in the student being dropped from the course with the appropriate withdrawal grade. Make-ups are not allowed as all assignments are posted at the beginning of the semester and can be submitted early.

Individual work.

Discussions.
When we learn new information, we will have a discussion about what you learned. These discussions are in two parts. The first part (due Monday) is your post of what you found the most important to discuss. The second part (due Friday) consists of you replying to at least THREE of your classmates expanding on their posts. This acts as a replacement for class participation and enables us to teach this class hybrid.

Dataset Assignments.
These homeworks are an opportunity for students to demonstrate in a non-timed event that they understand the methods just presented. Each student will have a different data set. This is NOT group work. Discussion on techniques are allowed, but actual data and answers may not be shared. There is one of the learning sub-modules. ONE early submission is allowed for feedback (at least 48 hours before the due date) per homework. These are also due on Friday.

So What Summaries.
You will review the techniques you just applied to your data set and provide an Executive Summary of what your learned about the data in a business context. What actionable information did you gleam from what you just did? These are due on Monday in lieu of the discussion.

Exams.
Each exam is preceded with a practice exam. The practice exam is worth a maximum of 2 points. If you choose to take the practice exam, your score on it will be added to the exam for a maximum of 100% on the exam. These exams are individual work. Exams are open book/notes/this class' blackboard site. No external assistance is allowed to include persons in this class, persons not in this class, internet web sites or peer-to-peer sharing. Violations and any

form of cheating will result in the student receiving a 0 on the exam, being dropped from the course and reported to the university for academic misconduct.

Yes, the practice exam must be recorded also if you take it outside of class. You are allowed twice the time as the exam. That means if you take it at home you have twice the time. But, I can't reserve the classroom for twice the time, so if you take the practice exam in class, you will only get the same time as the exam.

If you choose to take the practice exam, it must be complete prior to the exam or no credit for taking the practice exam. Practice exams are due by Wednesday.

You may choose to take this exam in class or outside of class. If you choose to take the exam outside of class you must have a high speed internet connection and your camera must be actively recording your work area during the exam. Your computer will be monitored via the test recording software ***Tegrity***. It is your responsibility to ensure the recordings are uploaded. Your exam will not be graded until your recordings are uploaded. Failure to upload the recordings within one week of the exam due date will result in a 0 on the exam.

Class Schedule: The instructor reserves the right to change this schedule as unforeseen incidents occur. Changes will be posted in *blackboard*.

	Friday				What is covered:	Read	Discussions	Data Sets	So What?	Prct Exam	Exam
Jan	11	Variables	Module 1	M0	Welcome	Ch 1	Intro(s)				q
	18			1-1	Use Correlations to find good numerical independent variables - check NA	Ch2,3,4	2	1-1			
	25			1-2	Use ANOVA to find good categorical independent variables - check NA	Ch 5,6,7	3	1-2			
February	1			1-3	Exam 1				1	1	1
	8	Regression	Numerical	Module 2	2-1	Single Linear Regression in Excel	Ch 8 & MBS 11	4	2-1			
	15			2-2	Multiple Linear Regression in Excel	MBS 12	5	2-2			
	22			2-3	Single and Multiple Linear Regression in SPSS	SPSS	6	2-3			
March	1			2-4	Exam 2				2	2	2
	8		Categorical	Module 3	3-1	Combination Linear Regression in Excel		7	3-1			
	15			3-2	Logistic Regression in Excel	Tutorial	8	3-2			
	18-22				Spring Break						
	29			3-3	Logistic and Combination Regression in SPSS	MRCatIV	9	3-3			
April	5			3-4	Exam 3				3	3	3
	12	Forecasting	Module 4	4-1	Forecasting: Lag & Moving Average	Ch 9 & MBS 14	10	4-1			
	19			4-2	Forecasting: Fitted Line & Exponential Smoothing		11	4-2			
	26			4-3	Evaluating Forecasts & Using MLR and forecasts		12	4-3			
May	3			4-4	Exam 4 during finals				4	4	4

Evaluations

Student evaluations of a course and its professor are a crucial element in helping faculty achieve excellence in the classroom and the institution in demonstrating that students are gaining knowledge. Students may evaluate courses they are taking starting on the Monday of the thirteenth week of instruction through the end of finals week by logging in to myUCA and clicking on the Evals button on the top right.

Policies and Procedures:

Attendance and Drop policies.

Two absences will result in the student being dropped from the course with the appropriate withdrawal grade. This includes the first day of class (Thursday) and all Tuesdays (other than exam weeks).

Assignment Submission.

The syllabus indicates which topics will be discussed in class on the given dates. This is subject to unforeseen changes. Should a change be necessary, the instructor will post a new syllabus in blackboard online. Routinely we can expect to have one to three classes cancelled each winter due to snow. If this happens, we may have to have class on Thursdays. But, as all material is also available online (for the online students), that material is also available for hybrid students.

Some chapters will be covered in more detail than others and the key concepts will be addressed in class. Students should focus on these concepts. All assignments are submitted in Blackboard. All assignments are noted at the start of the semester. No assignments will be accepted late.

Makeup Exams.

No makeup exams are allowed. Make-ahead exams may be possible by coordinating with the professor at least one week in advance of the make-ahead date.

Classroom Policies.

Overview.

This course section is designed to provide students with several tools to assist in the learning process. Success in this course will significantly impact performance and understanding in future courses, so mastering these foundations is of paramount importance to each student. Following the intended flow will aid in this goal.

1. Students should read the readings **prior** to coming to class.

2. At the start of class, students should ask the professor any lingering questions on the previous assignment. After questions are addressed, the professor will move on to the subject for the day. During this discussion students are encouraged to be participative and discuss the topic and/or any questions they may have. Students are also encouraged to come to the professor's office during office hours AND to chat with the professor via ***in Google Hangouts.*** If you cannot make the professors scheduled office hours, other arrangements can be made. As this is a hybrid & online class, many of your questions can be answered by other students quicker than by the professor. Try posting the question in the discussion room.

3. The course is divided into four sections. Each section has individual reading and homework. The sections culminate with an exam over the material in that section. The

sections build on each other. If material is missed in an early section, subsequent sections will be harder to digest.

Professionalism and Respect for Others.

Out of respect to the professor and your fellow students, please adhere to the following guidelines. Failure to adhere to these guidelines will result in class interruptions and you being asked to leave that class session. If you are asked to leave the class, please do so immediately. Class will not continue until you depart. Do not return to class during that session. The following is a list of disturbances that will initiate the professor in asking you to leave the class session:

- Using your lap top/cell phone in class for any purpose using the air waves, e.g. phone calls, searching the internet, chatting, texting, etc.
- Leaving your cell phone on and it ringing/vibrating during class. If you have a specific emergency requiring you to have it on, inform the instructor prior to class.
- Talking to other students about subjects not directly related to the ongoing lecture.
- Talking loudly or interrupting the lecture.
- Foul or abusive language or conduct.
- Causing any disturbance during class.

In general, treat others with respect and courtesy. This includes turning your cell phone OFF (not on silent/vibrate) during class as a courtesy to those around you and limit class disruptions.

Academic Integrity Statement

The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No. 709 on February 10, 2010, and published in the Student Handbook. Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy.

Disabilities Act Statement

The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, please contact the UCA Office of Disability Services, 450-3613.

Sexual Harassment and Academic Policies

All students are required to familiarize themselves with the University of Central Arkansas policy on sexual harassment and on academic policies. These policies are printed in the Student Handbook.

Title IX

If a student discloses an act of sexual harassment, discrimination, assault, or other sexual misconduct to a faculty member, the faculty member cannot maintain complete confidentiality and is required to report the act and may be required to reveal the names of the parties involved.

Any allegations made by a student may or may not trigger an investigation. Each situation differs and the obligation to conduct an investigation will depend on those specific set of circumstances. The determination to conduct an investigation will be made by the Title IX Coordinator. For further information, please visit: http://uca.edu/titleix.

Emergency Procedures Summary (EPS)
An Emergency Procedures Summary (EPS) for the building in which this class is held will be discussed during the first week of this course. EPS documents for most buildings on campus are available at http://uca.edu/mysafety/bep/. Every student should be familiar with emergency procedures for any campus building in which he/she spends time for classes or other purposes.

Accreditation & Assurance of Learning
Learning Goal(s) Assessed in this Class.

_X_ There is no formal assessment activity scheduled in this class.
        There is formal assessment activity scheduled in this class.

Learning Goals:

N/A
Learning Objective:

N/A

Measure:

N/A

Benchmark:

N/A