

## **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 Information**

<b>Course Number:</b>	QMTM 3325
<b>Course Name:</b>	Data Analysis
<b>CRN:</b>	31418
<b>Semester:</b>	Spring 2019
<b>Location:</b>	Blackboard
<b>Class Hours:</b>	Online

**Instructor Information**

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

**Prerequisites:** QMTM 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:**

**Online:** This course relies heavily on the use of technology including MS Excel with Add-In applications that come with the course text and SAS or SPSS. It also relies heavily on Blackboard for content delivery and assignment submission. Team projects may be executed distributivity.

You are **REQUIRED** to check the class blackboard site for mail, calendar changes and announcements **at a minimum every 48 hours**. All assignments to include exams are submitted via blackboard.

**Hybrid:** Did you know that this class is cross-listed with a hybrid offering? You will be engaging with students who meet with me every Tuesday. If you are having challenges, maybe one of these students learned a trick that may help you. Reach out to them and to me in the discussion room.

**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.	$< 60$

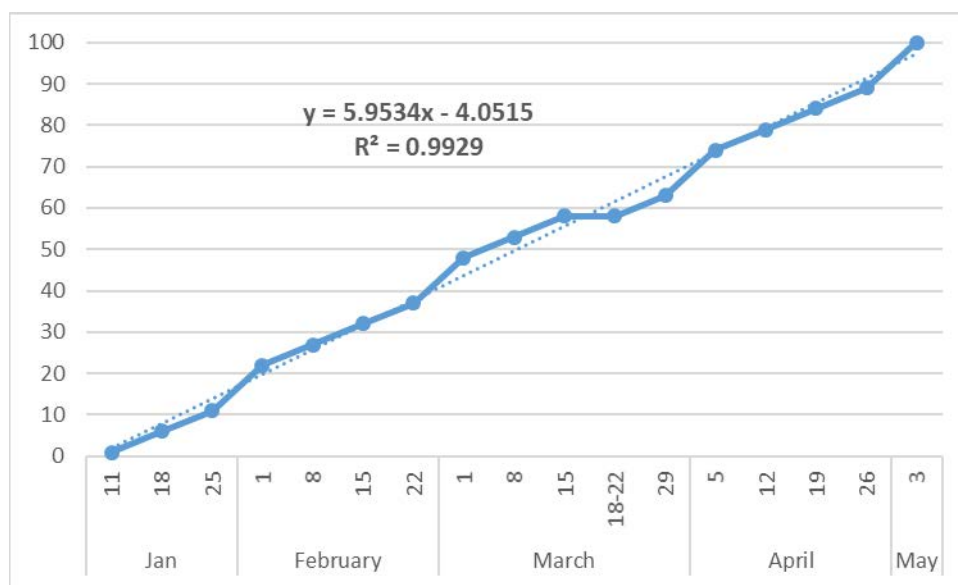
The various components of your grade are weighted as follows. There are a total of 100 course points earned for both individual and team work. The distribution of points is noted both in **Table 2** and in the description of course requirements.

**Table 2. Grading Rubric**

	Points	Quantity	Total
<b>Discussions</b>	1	12	12
<b>Data Set</b>	4	11	44
<b>So what?</b>	3	4	12
<b>Exam</b>	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**



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:**

All deliverables may be turned in early. 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 you learned about the data in a business context. What actionable information did you glean 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	M0	Welcome	Ch 1	Intro(s)			q
	18		Module 1	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	Numerical	1-3	Exam 1				1	1
	8		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	Categorical	2-4	Exam 2				2	2
	8		3-1	Combination Linear Regression in Excel		7	3-1		
	15		3-2	Logistic Regression in Excel	Tutorial	8	3-2		
	18-22	<b>Spring Break</b>							
April	29	Forecasting	Module 3	3-3	Logistic and Combination Regression in SPSS	MRCatIV	9	3-3	
	5		3-4	Exam 3				3	3
May	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		
	3		4-4	Exam 4 during finals				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.**

Your active participation in this course is expected and required for you to learn the material and earn a passing grade. In on-line courses, attendance/participation is assessed by progress towards the completion of the class. If you fail to regularly and actively participate (e.g., submit weekly assignments, participate in on-line discussions, etc.) it will demonstrate that you are not making a

reasonable effort to complete this course, and you will be administratively dropped for non-attendance with a grade of W.

If you have not logged into the class site by the 2<sup>nd</sup> day of the semester, you may be reported absent and dropped for non-attendance. This is for financial aid reasons and so you nor the university gets charged if you accidentally forgot to drop prior to the semester starting.

If you do not check into this course at least twice a week, you may be dropped for non-attendance. This is again a financial aid issue. If something happens and circumstances prevent you from completing this course, dropping you with a W early could prevent financial or GPA issues later. It is also a respect issue. Just as you would let your employer know if you cannot meet a deadline, please let me know as well. ]

### **Assignment Submission.**

[All module assignments are due when noted (Mondays & Fridays). No assignments will be accepted late. Yes, there is a caveat. If an unforeseen emergency occurs, as soon as safely possible, email me a picture confirming the incident and ask for a specific extension date/period. E.g. a picture of your IV and you in the hospital after being rushed to the ER. ]

### **Makeup Exams.**

No makeup exams are allowed. Exams are available during a one-week window. You have ONE attempt so make sure you are satisfied with your answer before submitting. They are timed. Once you open them, you must submit them within the time window. Make sure you have allocated yourself adequate time. Make sure Tegrity take a test is running properly – test it first. OK, sure same extension applies if you send me your ER photo...

### **Classroom Policies:**

#### ***Overview.***

This course is designed to provide the business analyst or anyone working in the business world a foundation in some of the most often used analytical tools. These subjects are not covered in depth and those students interested in learning more are encouraged to take graduate level courses in any of these subjects.

1. Students should read the noted reading and review the slides and links prior to attempting the home works.
2. You will have to find your data and then craft it in a business concept. Yes, this is an applied course.
3. This is an online course. It is self-paced. I have provided a recommended flow for you to follow. Feel free to work ahead.
4. If you are falling behind or having trouble comprehending, please reach out to your classmates, the tutoring center or me for assistance. I want you to succeed!

#### ***Professionalism and Respect for Others.***

Out of respect to the professor and your fellow students, please adhere to the following guidelines.



- If another student needs help. Please help them – well, not on the quiz. You will learn and gain confidence from doing so.
- Do not wait until the last minute to post your discussions. This only shortens the time for other students to respond.
- If you have questions about content once the quiz window opens, ask it early. It may benefit others as well.

In general, treat others with respect and courtesy. Who knows they may be in a future class with you and you may end up working together on a project.]

**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.

Please refer to the Student Handbook for a detailed explanation of academic misconduct and repercussions. All incidents of academic misconduct (cheating) will result in the student receiving a 0 for the project/quiz/exam in question and being dropped from the course with the appropriate grade. Appeals are handled according to the Student Handbook. Some specific pitfalls to avoid during this course are:

- Copying or sharing information on assignments or quizzes before ALL students have completed the assignments/quiz.
- Helping others or allowing others to view or copy your assignments or quizzes results/answers before ALL students have completed the assignments/quiz (except as allowed in the discussion room).
- Receiving assistance from others or copying others' work on your assignments or quizzes before ALL students have completed the assignments except as allowed in the discussion rooms.
- Submitting others' work as your own on assignments, or quizzes.
- Failing to be completely honest when dealing with the instructor.

**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.

**Other Required Materials/Competencies/Resources: N/A****Accreditation & Assurance of Learning****Learning Goal(s) Assessed in this Class**

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]