

College of Business

MSBA 214: Big Data Technologies for Business

Course Schedule: Wednesdays 6:00PM to 8:50PM on Zoom

Disclaimer: This syllabus and the schedule of readings, assignments, and activities may be changed by the instructor in order to maximize student learning needs and meet the objectives of the courses.

I. Instructor Information

Instructor	Evren Eryilmaz
Office	TAH 2091
Office Hours	Tuesdays and Thursdays 12:00-1:30 pm, and by appointment
Office Phone	916-278-3889
E-mail	evren.eryilmaz@csus.edu

Email access is essential in communicating with the instructor and your peers. Please activate your CSUS e-mail account and log on to the SacCT course regularly.

This course is offered in an online learning format.

II. ACADEMIC LEARNING RESOURCES

Required Amazon Web Serviced Academy

<https://www.awsacademy.com/>

Optional Text:

Title: Learning Amazon Web Services (AWS): A Hands-On Guide to the Fundamentals of AWS Cloud

Author: Mark Wilkins

Publisher: Addison-Wesley Professional; 1st edition (July 19, 2019)

ISBN-13: 978-0135298343

ISBN-10: 0135298342

Optional Text:

Title: Cloud Native AI and Machine Learning on AWS: Use SageMaker for building ML models, automate MLOps, and take advantage of numerous AWS AI services

Author: Premkumar Rangarajan

Publisher: BPB Publications (February 14, 2023)

ISBN-13: 978-9355513267

ISBN-10: 9355513267

IV. INSTRUCTIONAL DESIGN

Course Description: This course addresses the concepts and principles of Big Data and how Big Data can be used in the enterprise. The course starts with an overview of the fundamental principles of Big Data and its role in making better decisions and predictions in the organization. Following the fundamentals of Big Data, we address the technology, infrastructure, and applications of Big Data.

This course offers a general introduction to data analysis, modeling, and algorithms of data mining with an emphasis on Big Data. The business world has entered the era of Big Data and Big Data analytics has become an emerging trend in data mining. Lectures are supplemented by computer exercises and discussions. The course covers the core concepts behind big data problems, applications, and systems. It introduces one of the most common frameworks, such as Hadoop and Spark, that has made big data analysis easier and more accessible.

Prerequisites: MSBA 201, MSBA 202

Course Learning Goals and Objectives:

1. Explain the fundamental concepts of Big Data management and analytics.
2. Recognize challenges faced by applications dealing with very large volumes of data and propose scalable solutions for them.
3. Describe how Big Data impacts business intelligence, scientific discovery, and our day-to-day life.

V. Program Learning Outcomes:

This is a required course of the MS in Business Analytics program. The following Program Learning Outcomes (PLO) will be assessed:

Lines of Evidence			
Institutional Graduate Goal	PLO	Direct	Indirect
Disciplinary Knowledge	1. PLO 1.1 2. PLO 1.2	Homeworks, cases, project, final exam	

VI. Grading Criteria, Guidelines, and Assignments

Assignment	Percentage
Project	30%
Midterm	15%
Cases	30%
Final Exam	25%
Total	100

Based on the total points, your grades will be assigned as follows:

Percent	Grade
90-100	A: (90-92.9%: A-; above 93%: A)
80-89	B: (80-82.9%: B-; 83-86.9%: B; 87~89.9%: B+)
70-79	C: (70-72.9%: C-; 73-76.9%: C; 77~79.9%: C+)
60-69	D: (60-62.9%: D-; 63-66.9%: D; 67~69.9%: D+)
0-59	F

The instructor reserves the right to modify the course grading scheme. Final grade can be changed only if a posting error has occurred per University policy.

VII. WEEKLY OUTLINE: *The schedule of readings, assignments, and activities may be changed by the instructor in order to maximize student learning needs and meet the objectives of the course.*

VIII. COURSE TIME COMMITMENT

Contact Hours and Assignments		Contact Hours
Online Lectures & Online Meetings		45 hours (3 unit course)
Out of Class	Homework Assignments	6-9 hours per week
	Reading Assignments	
	Exams	
Total Hours per Week	9-12 hours /week	

IX. SACRAMENTO STATE ACADEMIC HONESTY POLICY AND REGULATIONS excerpt
“Definitions of Academic Dishonesty” <http://www.csus.edu/umannual/student/STU-0100.htm>

Attendance policy. Online lecture attendance is critical for learning the material in this course. I expect you to attend all online lectures, and absences are excused only per university policy:

<https://www.csus.edu/acse/senate-info/14-15agendas-minutes/020515agendas-minutes/14-15fs-111.pdf>

Cheating. At Sacramento State, cheating is the act of obtaining or attempting to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means. Cheating at Sacramento State includes but is not limited to:

- Copying, in part or in whole, from another’s test or other evaluation instrument.
- Using crib notes, "cheat sheets," or any other device, including electronic devices not permitted by the instructor as an aid in writing an examination.
- Submitting work previously graded in another course unless doing so has been approved by the course instructor or by department policy.
- Submitting work simultaneously presented in more than one course, unless doing so has been approved by the respective course instructors or by the department policies of the respective departments.
- Altering or interfering with grading or grading instructions.
- Sitting for an examination by a surrogate, or as a surrogate.
- Any other act committed by a student in the course of his or her academic work that defrauds or misrepresents, including aiding or abetting in any of the actions defined above.

Plagiarism. Plagiarism, as a form of cheating, is the use of distinctive ideas or works belonging to another person without providing adequate acknowledgement of that person’s contribution. Regardless of the means of appropriation, incorporation of another’s work into one’s own requires adequate identification and acknowledgement. Plagiarism is doubly unethical because it deprives the author of rightful credit and gives credit to someone who has not earned it. Acknowledgement is not necessary when the material used is common knowledge. Plagiarism at Sacramento State includes but is not limited to:

- The act of incorporating into one’s own work the ideas, words, sentences, paragraphs, or parts thereof, or the specific substance of another’s work without giving appropriate credit thereby representing the product as entirely one's own. Examples include not only word-for-word copying, but also the "mosaic" (i.e., interspersing a few of one’s own words while, in essence, copying another’s work), the paraphrase (i.e., rewriting another’s work while still using the other’s fundamental idea or theory); fabrication (i.e., inventing or counterfeiting sources), ghost-writing (i.e., submitting another’s work as one’s own) and failure to include quotation marks on material that is otherwise acknowledged; and

- Representing as one's own another's artistic or scholarly works such as musical compositions, computer programs, photographs, paintings, drawing, sculptures, or similar works.

X. ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Services to Students with Disabilities (SSWD) <https://www.csus.edu/student-affairs/centers-programs/services-students-disabilities/> Sacramento State is committed to ensuring an accessible learning environment where course or instructional content are usable by all students and faculty. If you believe that you require disability-related academic adjustments for this class, please immediately contact Services for Students with Disabilities (SSWD) to discuss eligibility. A current accommodation letter from SSWD is required before any modifications, above and beyond what is otherwise available for all other students in this class will be provided.

Student Health and Counseling Services <https://www.csus.edu/student-life/health-counseling/> Your physical and mental health are important to your success as a college student. Student Health and Counseling Services (SHCS) in The WELL offers medical, counseling, and wellness services to help you get and stay healthy during your time at Sac State. SHCS offers: Primary Care medical services, including sexual and reproductive healthcare, transgender care, and immunizations; urgent care for acute illness, injuries, and urgent counseling needs; pharmacy for prescriptions and over-the-counter products; mental health counseling, including individual sessions, group counseling, support groups, mindfulness training, and peer counseling; athletic training for sports injury rehabilitation; wellness services, including nutrition counseling, peerled health education and wellness workshops, and free safer sex supplies; violence and sexual assault support services. Most services are covered by the Health Services fee and available at no additional cost.

Crisis Assistance & Resource Education Support (CARES) <https://www.csus.edu/student-affairs/crisis-assistance-resource-education-support/> If you are experiencing challenges with food, housing, financial or other unique circumstances that are impacting your education, help is just a phone call or email away. The CARES office provides case management support for any enrolled student.

XI. STUDENT RESOURCES

1. CBA Tutoring Center – TAH 3067. Contact the Office of Student Engagement (TAH 1040) for tutoring schedules.
2. University Reading and Writing Center (URWC) - provides encouraging, focused, and non-judgmental one-to-one tutorials in reading and writing for any undergraduate or graduate student at CSUS. <http://www.csus.edu/writingcenter/>
3. The Peer and Academic Resource Center (PARC) - major services include Supplemental Instruction; Supplemental Instruction Plus, Workshops & Individual Tutorials; and Peer Led Advising for college Experiences. <http://www.csus.edu/parc/>

XII. OTHER INFORMATION

Late and Make-up Policy: The general policy for this course is to require completion of assignments as specified in the class schedule. All assignments are due at the beginning of the class period. If the assignment is submitted after the beginning of the class, there will be a 5% deduction. If the assignment is submitted on the same day, but after class, there will be a 10% penalty. If the assignment is submitted within a week, there will be a 20% penalty. No late assignments will be accepted after 1 week. All assignments should be printed and stapled together with the cover letter statement (click for sample) on the top. If you have an emergency or other extenuating circumstances that will affect your ability to turn in an assignment or complete an exam, please contact me as soon as possible to discuss.

Incomplete: An incomplete grade (I) will only be issued in accordance to College of Business Administration policy. Among the conditions imposed by the instructor that must be met are: (1) a current passing grade (70 percent or better), (2) the successful completion of all prior assignments and exams, and (3) an unforeseen and unusual event beyond your control which prevents you from completing the semester, and can be documented and verified (employment-related events do not qualify). (4) An incomplete will only be considered after it has been determined that a withdrawal (W) cannot be issued. If you do not meet (1) through (4), you do not qualify for an incomplete. As stipulated by the University, an incomplete cannot be assigned when it is necessary for the student to attend additional class meetings to complete the course requirements.

Unauthorized Withdrawal (WU) indicates that a student did not officially withdraw from the course but failed to complete it. Among the conditions imposed by the instructor that must be met are: (1) a passing grade (70 percent or better) at the time that the student stopped attending classes, (2) attendance stopped before the 11th week of the semester. If you do not meet (1) and (2), you do not qualify for an unauthorized withdrawal (WU) grade and as a result you will be assigned a failing (F) grade.

Laptop and cell phone regulation: No photographing, recording or text messaging is allowed without permission of the instructor.

A disruptive student is a student who engages in classroom behavior that interferes with the process of teaching and learning. If a student is disruptive to my class, I will follow the Procedures for dealing with incidents of disruptive behavior described in the DEALING WITH INCIDENTS OF DISRUPTIVE STUDENT BEHAVIOR IN THE CLASSROOM document <http://www.csus.edu/umannual/student/STU-0112.htm>.

TENTATIVE COURSE SCHEDULE

Week	Topic
Week 1	Course Introduction, Accessing to AWS Academy, Software Installation
Week 2	Theory: Cloud Concepts Overview Practice: Scraping Data from Pinterest
Week 3	Theory: Cloud Economics Billing Practice: Using SageMaker to Analyze Pinterest Image Data
Week 4	Theory: AWS Global Infrastructure Overview Practice: Video Analytics in SageMaker
Week 5	Theory: AWS Cloud Security Practice:Scapring Data from Yahoo News
Week 6	Theory: Networking and Content Delivery Practice: Using SageMaker to Analyze Yahoo News Data
Week 7	Theory: Compute Services Practice: Using SageMaker to Detect Fake News
Week 8	Theory: Storage Practice: Scraping Data from Spotify
Week 9	Theory: Databases Practice: Using SageMaker to Analyze Spotify Data
Week 10	Theory and PracticeAmazon Elastic Mapreduce and Apache Spark
Week 11	Theory Miscellaneous Topics on AWS Certified Cloud Practitioner Exam
Week 12	Midterm
Week 13	Project
Week 14	Project
Week 15	Project Presentation, Final Exam Review
Week 16	Final Exam