Cloud Analytics Syllabus

Course Information

Course Number/Section	BUAN 6358.001
Course Title	Cloud Analytics
Term	Fall 2022

Professor Contact Information

Professor	Dr. Judd D. Bradbury
Office Phone	972-883-4873
Mail Contact	e-Learning eMail
Office Hours	Tuesday 5:00 – 6:00 PM with appointment

Class Participation

Regular class participation is expected regardless of course modality. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Class Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

The instructor may record meetings of this course. Any recordings will be available to all students registered for this class as they are intended to supplement the classroom experience. Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Class Materials

The Instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may

be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Course Description
This course is designed to provide students with an understanding of cloud based analytics within the context of data science. The cloud analytics course will be exploring a number techniques for teaching the concepts and skills required as a data science professional working in a cloud based environment. The course is technically demanding requiring programming and quick assimilation of a number of toolsets. Please understand that in order to effectively learn the concepts and approaches in this course, you will need to work for several hours each week. If you are up for this personal responsibility, please join us!

Student Learning Objectives
1. Provide students with an understanding of data lakes and data warehouses used in analytics
2. Provide students with an understanding of peforming analytics using cloud technologies
3. Provide students with an understanding of cloud based queries and query federation
4. Provide students with knowledge using cloud based analytics and visualization toolsets
5. Provide students with the ability to compose corporate communication of analytical insights

Student Learning Outcomes
1. Students will be able to manipulate, load, and store data sets
2. Student will be proficient in multiple data source queries
3. Student will be able to use analytics notebooks
4. Students will be able to create analytical and visualization communication

Course Policies
A solemn duty will be upheld by your professor to maintain a level playing field for all students.

- **Assignments are due at midnight on the due dates defined in the syllabus**
- **Assignments must be submitted through e-learning**
- **Do not use the Microsoft Edge browser for submissions as it will damage documents**
- **Students are provided only one submission attempt per assignment**
- **Late assignments receive a 25% discount more than 7 calendar days late is a 0/100**
- **Completing assignments is 100% a student responsibility, we help, we do not tutor**
- **Interim quizzes will be provided to ensure students study the material each week**
- **Students are required to attend every class, speak, and monitor e-learning daily**
- **Missed exams will be provided with a 0/100**
- **We do not provide extra credit assignments**
- **A signed note from a medical doctor will be required for any grading impacted policy**
- **Colds, headaches, upset stomach and/or flu are not acceptable excuses for missing class or deliverables**
- **Students will receive the grades they earn, requests to change grades will be deleted**

- **We will only discuss grade calculation errors, we will not discuss your grade preference**

Communication
This course utilizes online tools for interaction and communication. For more details, please visit the eLearning Tutorials webpage http://www.utdallas.edu/elearning/students/eLearningTutorialsStudents.html for video demonstrations on eLearning tools.

- **Instructor will communicate with announcements and discussion board postings**
- **Communication sequence is:**
    1. **Discussion board posting**
    2. **Attend optional lab**
    3. **Course message to professor (If no response to discussion board in 24 hours)**
- **Individual concerns or questions should be sent in a course message**
- **Professor and teaching assistants are off duty on weekends**
- **Discussion board postings should always include:**
    1. **Exercise and step number**
    2. **Description of the last step that worked**
    3. **Screen shot of the error**
- **Discussion board postings are not markers that can be placed on the professor**
- **Blanket e-mails or lobbying your classmates is inappropriate student conduct**
- **Discussion board posts regarding course policies and/or answers will be deleted**

Technical Requirements
In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements http://www.utdallas.edu/elearning/students/getting-started.html#techreqs on the Getting Started with eLearning webpage http://www.utdallas.edu/elearning/students/getting-started.html.

Technical Specifications (Recommended)

RAM - 8GB
Processor - Intel i5 2.4 Ghz (minimum)
Graphics Processor - 512 MB (Dedicated)

Course Access and Navigation
The course can be accessed using the UT Dallas NetID account at: https://elearning.utdallas.edu. Please see the course access and navigation http://www.utdallas.edu/elearning/students/getting-started.html#courseaccessandnav section of the site for more information.

To become familiar with the eLearning tool, please see the Student eLearning Tutorials http://www.utdallas.edu/elearning/students/eLearningTutorialsStudents.html.
UT Dallas provides eLearning technical support 24 hours a day/7 days a week. The eLearning Support Center http://www.utdallas.edu/elearninghelp services include a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Distance Learning Student Resources
Online students have access to resources including the McDermott Library, Academic Advising, The Office of Student AccessAbility, and many others. Please see the eLearning Current Students page http://www.utdallas.edu/elearning/students/cstudents.htm for details.

Server Unavailability or Other Technical Difficulties
The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online eLearning Help Desk http://www.utdallas.edu/elearninghelp. The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.

Assignments & Academic Calendar

WEEK BEGIN	TOPIC/LECTURE	READING	ASSESSMENT / ACTIVITY	EXERCISE DUE DATE
1 8/22	AWS Environments Student Desires & Expectations		**Creating your AWS Free Tier Account**	**8/26**
2 8/29	AWS S3 Data Lakes		**Assignment 1 – S3 Create Data Lake**	**9/2**
3 9/5	AWS Athena Database		**Assignment 2 – Athena Database Query**	**9/9**
4 9/12	AWS Redshift Data Warehouse		**Assignment 3 – Analyzing Data with Redshift**	**9/16**
5 9/19	AWS Federated Queries		**Assignment 4 – Federated Query with Athena**	**9/23**

6 9/26	AWS Workflow and Data Pipelines		**Assignment 5 – Create Data Pipeline**	**9/30**
7 10/3	Exam 1 Review	Students must schedule their exam seat 72 hours in advance to receive the exam curve	**Exam 1**	**10/7**
8 10/10	AWS Quicksight		**Assignment 6 – Create Visualizations in Quicksight**	**10/14**
9 10/17	AWS Sagemaker Data Manipulation and Visualization		**Assignment 7 – Sagemaker Jupyter Notebooks**	**10/21**
10 10/24	AWS Streaming Data		**Assignment 8 - Kenesis, Firehose, and Kibana**	**10/28**
11 10/31	AWS Internet of Things		**Assignment 9 – Analyze IOT Data**	**11/4**
12 11/7	AWS Sagemaker Machine Learning		**Assignment 10 – ML Predictive Analysis**	**11/11**
13 11/14	Exam 2 Review	Students must schedule their exam seat 72 hours in advance to receive the exam curve	**Exam 2**	**11/18**
14 11/21	Fall Break			
15 11/28	Sagemaker Machine Learning			**12/2**

	Independent Project Introduction & Working Session			
15 12/5	Sagemaker Machine Learning Project Working Session		Sagemaker Machine Learning Project Due	**12/9**

Exam Procedures

Exams will be administered in the UT Dallas Testing Center on campus.

Grading Policy

Weights

Assignments		54%
Case Study		10%
Exam 1		15%
Exam 2		15%
AWS Certification Labs		5%
Class Policy Test & Evaluation Quiz		1%
Total		100%

Grading Scale

Scaled Score	Letter Equivalent
>= 93	A
>= 90	A-
>= 86	B+
>= 83	B
>= 80	B-
>= 76	C+
>= 70	C
< 70	F

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Integrity

The faculty, administration, and student body of UT Dallas expects a high level of responsibility and academic integrity. These expectations and specific prohibitions are published by the office of community standards here:

https://conduct.utdallas.edu/dishonesty/

Students in this course suspected of academic dishonesty are subject to disciplinary proceedings by the office of Judicial Affairs. If found responsible, the following sanctions will be applied:

1. **Assignments – One letter grade reduction**
2. **Projects & Case Studies – One letter grade reduction**
3. **Quizzes – One letter grade reduction**
4. **Exams – F as the final course grade**

As a positive incentive for students with integrity, the School of Management reviews a student's disciplinary record, on file with the Dean of Students, as one of the criteria for determining a student's eligibility for a scholarship.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.