



Course ID: ITSS 4371.501.24F
Course Title: Cloud Computing with AWS
Instructor: John Young
Term: Fall 2024
Meetings: Wednesdays, 7:00 PM to 9:45 PM CT
Classroom: SCI 3.230

Contact Information

Email: john.young@utdallas.edu

Office Location: JSOM 3.604 (Adjunct Office) or virtually on Teams

Office Hours: Wednesday, 6:00 PM to 6:30 PM CT *by appointment only*

Course Modality & Expectations

The course will be taught using the traditional in-class modality in the assigned classroom at the assigned time. You are expected to read this syllabus in its entirety and abide by the rules and guidelines given. Failure to do so will negatively affect your grade and create unnecessary friction. Please follow my rules, or in the words of *South Park's* Thumper, aka Super Cool Ski Instructor, *you're gonna have a bad time.*

Prerequisites

ITSS 3300.

Course Description

ITSS 4371 - Cloud Computing with AWS (3 semester credit hours): This course introduces cloud computing concepts, technologies, architecture, and applications. Students will learn how to evaluate cloud computing requirements and solution options. Through hands-on exercises, students will learn how to use cloud infrastructure and the fundamental technologies.

Text & Technical Resources

The following texts are required for this class. This text is available to view online for free through the McDermott Library:

- Ruparelia, Nayan (2023). *Cloud Computing, Revised and Updated Edition*. The MIT Press. ISBN: 978-0262376228 (epub). Referred to in the class calendar as **CC**. This book is available to view online at:

https://utdallas.primo.exlibrisgroup.com/permalink/01UT_DALLAS/2hgl0t/alma9928213246601421

The following text is available on eLearning:

- Schmidt, Tobias & Volpicella, Alessandro (2023). *AWS Fundamentals*. Referred to in the class calendar as **AWSF**.

https://elearning.utdallas.edu/bbcswebdav/pid-8243506-dt-content-rid-203889127_1/xid-203889127_1

In order to have access to the full range of services we'll use in this course, you will sign up for a free-tier AWS account. To sign up, a debit or credit card is required. If you do not have a debit or credit card,

please advise your instructor accordingly. We will also be using AWS Academy for some of the activities.

Lecture Preparation

Students should prepare for lectures by reading the assigned material and completing homework assignments prior to class. Did I mention that you won't pass the class without reading the assigned reading? Thus, all reading assignments in the class calendar are supposed to be read before the lecture on the given topic.

Lecture Guidelines

You're expected to show up on time prepared, meaning you did the assigned reading and completed any assignments. Cellphone use is prohibited during class except to take photos of the lecture slides. Likewise, using your computer for purposes other than taking notes during lectures is prohibited. If I see you grinning at your screen when I haven't said anything particularly amusing, you'll be required to take handwritten notes (meaning bring pen and paper), or be told to leave the class and be given an unexcused absence. If your conversation is loud enough that I become aware of it (and I'm practically deaf), you'll be told to leave and be given an unexcused absence.

Attendance, Assignments, Grading & Participation

Attendance: Come to class or you won't pass. Attendance is graded and worth 24% of your overall grade. All medically-related excuses for absence must be accompanied by a doctor's note or I won't excuse the absence. If you receive an accommodation for attendance, either formal or informal, you still need to communicate with the instructor on days you're not attending. Otherwise, it'll be treated as an unexcused absence. All other excuses for absence must be 1) accompanied by evidence, and 2) delivered before the absence if it's a planned absence. If you're in an accident on the way to school, I need an accident report and pictures to excuse it.

You receive one "grace day" in the semester where you automatically receive an excused absence. In order to be eligible to receive a grace day, you must declare the absence and grace day *prior* to the absence. You can use this grace day for any reason or no reason at all, although I suggest you save it for foreseeable reasons. The University will excuse a student from class or other required activities, including examinations and travel time, for the observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, of the Texas Tax Code. That doesn't mean I have to offer grace days in addition to those absences, so good reasons to save your grace day may include:

- You're a practicing Muslim and you want to attend the feast on Eid Al-Fitr.
- You're an observant Jew and you want to attend the Passover seder.
- You're a practicing Hindu and you want to attend a Diwali festivity.

You must tell me in advance if you're missing class due to a religious holiday; you can't declare it after the fact and expect it to be an excused absence. If you receive two or more unexcused absences, a 15% penalty will be applied to all assignments, retroactively and those upcoming.

Also, please note that unless the University closes, we will continue to have class in person. Unless it's of biblical proportions, rain is never an excuse to miss class.

Tardiness is frowned on. Showing up late or leaving early without prior consultation with the instructor will result in your name being stricken from the roll and you'll receive an unexcused absence.

Assignments: Assignments will consist of completing the assigned AWS Academy Cloud Operations modules. AWS Academy Cloud Operations is designed to prepare you to pursue entry-level DevOps, support, and cloud operations roles. These modules will enhance your understanding of IT infrastructure, and the modules will also help prepare you to take the AWS SysOps Administrator – Associate exam, if you so choose. Emphasizing best practices in the AWS Cloud and recommended design patterns, these modules will teach you how to solve problems and troubleshoot various scenarios. The modules will show you how to create automatable and repeatable deployments of networks and systems on AWS, covering specific AWS features and tools related to configuration and deployment. With case studies and demonstrations, you will learn how some AWS customers design their infrastructures and implement various strategies and services. You will also have the opportunity to build a variety of infrastructures via guided, hands-on activities. Fun, eh?

There are 11 Cloud Operations modules. Each module is worth up to 10 points, for a combined total of 110 points. Each module is expected to take around two hours to complete; these will be done outside of class. You must complete your knowledge check no later than the start of class on the week they're assigned. Failure to complete the knowledge check on time will result in receiving a zero for the module. It is also up to you to ensure your knowledge check grade is captured by AWS Academy. If I pull grades and it doesn't show you as having completed the check, you'll receive a zero. Double-check: If in doubt, email me a pic of your grade.

In addition to the eleven AWS Cloud Operations modules, each student will turn in a project at the end of the semester. Details will be discussed in class.

Grading: There is a maximum of 540 points to earn. That said, there is an opportunity to earn bonus points throughout the semester, which we'll discuss under Participation, so in reality, there is a maximum of 560 points. However, your grade is calculated against the 540-point maximum.

Grade Component	Grade Points	Percentage Grade
Attendance	130 (10 points x 13 classes)	24.1%
AWS Cloud Operations	110 (10 points x 11 modules)	20.4%
Project	100	18.5%
Exam 1	100	18.5%
Exam 2	100	18.5%
Total	540	100%

Letter grade scoring is as follows:

Final Point Total	Letter Grade
97.00 to 100.00	A+
93.00 to 96.99	A
90.00 to 92.99	A-
87.00 to 89.99	B+
83.00 to 86.99	B

80.00 to 82.99	B-
77.00 to 79.99	C+
73.00 to 76.99	C
70.00 to 72.99	C-
67.00 to 69.99	D+
63.00 to 66.99	D
60.00 to 62.99	D-
< 60.00	F

Note the grading is done to two decimal places, so please don't ask me to round your grade up unless you're sitting at a X.95 or better. Please note that your grades in eLearning reflect points, not percentages. Please don't email the instructor around the midterm saying something like "*I've attended every class and yet I only have a 50 on my attendance!*" I've only got so much time left on this earth and I don't want to waste it responding to a facepalm-worthy demonstration of a lack of critical thinking skills.

Exams: You'll see we have two tests, a midterm and final, each worth 100 points. Each exam is 50 questions, true/false. You will have 50 minutes to complete each exam, and they are closed-book, closed-note exams. These exams will be administered electronically *in class* on the days noted in the calendar via eLearning. As such, please ensure you bring your computer to class on the exam dates. You must advise the instructor at least one week (seven calendar days) in advance if you're not able to take the exam on the scheduled date. Excuses which will be dismissed outright include, but are not limited to, "*my grandmother is sick,*" "*my brother is getting married,*" and "*my parents scheduled this vacation.*" You have access to the same academic calendar I do, as well as this syllabus, so if you're not communicating with your family or employer about the need for you to be here on the exam dates, that's on you. If you miss the exam entirely (and it's happened), there is no make-up exam; you will receive a zero. Note that under no circumstances will you be allowed to use any aids on the exam, to include translation aids, barring a formal accommodation approved by the University's AccessAbility Resource Center (UTD ARC). Your admission to this University is predicated on a fluency in English, as this is the language this course is taught, as I am sure most others are. If I see you typing a keystroke on an exam, which is unnecessary as the tests simply require you to click true or false, I will assume you are cheating and you will fail this course on the spot.

Participation: Participation and performance go hand-in-hand, and in the "real world" of business, performance is often rewarded by a bonus. Students have the opportunity to earn bonus points by answering questions in class. Whether a question is worth bonus points is up to me. Bonus points are capped at 20 and will be given at the discretion of the instructor. Bonus points may be deducted or eliminated entirely in cases of excessive unexcused absence (one or more beyond your grace day) or at the instructor's discretion. Bonus points are my way of giving you a boost for good performance, but no one is *entitled* to bonus points. I will give the full 20 bonus points to any student that passes the AWS SysOps Administrator – Associate exam and provides proof through Credly *before* December 4, 2024.

Miscellaneous Course & Instructor Policies

The following policies describe how the course will be managed. Situations and issues not covered will be resolved at the discretion of the instructor. Changes to policies will be posted in syllabus updates on eLearning under the assignments section. Students will be notified via eLearning announcements when syllabus changes occur.

Late Work & Make-Up Assignments: All assignments are due on the date by the instructor, regardless of what is marked in the syllabus (so you actually need to pay attention in class). As mentioned earlier, due dates are typically one week after the assignment is made, but dates may vary at the instructor's discretion. Assignments are always due by the start of class, not by the end of the day. Email timestamps based on the instructor's receipt of the email governs whether an assignment is on time or late. Point penalties will be applied to late work as such using the example that class starts at 7:00 PM:

- 7:01 PM to 7:15 PM CT: 2 points (10%)
- 7:16 PM to 7:30 PM CT: 4 points (20%)
- 7:31 PM to 11:59 PM CT: 6 points (30%)
- After 11:59 PM CT: 20 points (100%--don't bother)

There is no make-up work or extra credit work available. You get one chance to get it right.

eLearning: eLearning will be used for announcements, class content and the recording of scores and grades. Please read the announcements before contacting the instructor to ensure the answer to your question isn't already covered by an announcement. Please note that grades will be updated in eLearning at the instructor's discretion, but will generally be fully updated prior to the midterm and final so you know where you stand going into the exams. Please don't submit assignments or send correspondence via eLearning; everything is done through UTD email. If it's not in UTD email, it doesn't count.

Instructor Response Policy: For any questions for which you are expecting a formal (actionable) response, you must submit the question in writing from your UT Dallas email to the instructor's or TA's UT Dallas email. Neither the instructor nor the TA bears any responsibility for questions submitted orally (e.g. after class or in the hallway). The instructor/TA will typically respond to all student emails within 48 hours or less (excluding holidays and weekends).

Requests for Grade Review: Occasionally errors are made in grading or there's a difference of opinion when it comes to whether an answer is correct. In those instances, you may request a grade review from the instructor. Grade reviews will only be entertained if they are made in writing via UTD email to the instructor (not the TA) within one week of receiving the graded assignment back from the instructor or TA; those requests made beyond the one-week deadline will be denied. Same goes for attendance. If the assignment was graded by the TA, you must present the graded assignment in your request or the grade will not be reviewed. The instructor is under no obligation to accept amended assignments even if submitted before the deadline, so take care in ensuring your assignment is complete and accurate before turning it in to be graded. Also, please exercise good judgment when requesting a grade review; unless you're on the edge of passing/failing, quibbling over a point is, well, pointless.

General UT Dallas Policies

For information regarding general University policies and procedures, please go to <https://go.utdallas.edu/syllabus-policies>. These policies include the following:

- Technical Support
- Field Trip Policies, Off-Campus Instruction and Course Activities
- Student Conduct and Discipline, Academic Integrity, Avoiding Plagiarism
- Copyright Notice
- Email Use
- Withdrawal from Class
- Student Grievance Procedures
- Incomplete Grade Policy
- Disability Services
- Religious Holy Days

Academic Integrity

The University is committed to academic excellence, expects academic honesty from all members of the University community and believes that it is essential for academic excellence and integrity. Academic honesty includes adherence to guidelines established by the instructor in a particular course. I want you to succeed, and I encourage you to *study* together. However, *at no point should you*:

- Discuss your assignments with others prior to submission.
- Work with anyone else on an assignment, module, quiz, or test. All work in this class is individual.
- Share your work, or any part of your work, with fellow classmates.
- Share your work with fellow UTD students.
- Share your work on *any* website.
- Copy work of another, in part or whole, regardless of source.
- Use any unauthorized aids on any assignment or test.

It takes a lifetime to build trust and your good name—and *an instant to destroy it*. If you get that, welcome to ITSS 4371; I look forward to spending the semester with you sharing my profession and the insights gained from 20+ years working in the field. If you think a good grade is worth taking ethical shortcuts, drop my class now. For those on the fence, let me be *exceedingly clear*:

WORKING WITH OTHERS, SHARING, COPYING, OR OTHERWISE REPRESENTING THE WORK OF OTHERS TO BE ONE'S OWN, IS PLAGIARISM AND/OR COLLUSION. RECEIVING UNAUTHORIZED AID ON AN ASSIGNMENT OR TEST, OR USING SIMILAR PAPERS OR OTHER WORK PRODUCTS TO FULFILL OBLIGATIONS OF THIS CLASS OR OTHER CLASSES WITHOUT THE INSTRUCTOR'S PERMISSION IS CHEATING.

PENALTIES FOR ACADEMIC DISHONESTY MAY INCLUDE RECEIVING A SCORE OF ZERO FOR THE WORK IN QUESTION AND LOSING THE BENEFIT OF CURVES ON TESTS, FAILING THE CLASS, AND/OR DISMISSAL FROM THE UNIVERSITY.

ANY STUDENT ENGAGED IN ACADEMIC DISHONESTY WILL BE REFERRED TO THE OFFICE OF COMMUNITY STANDARDS AND CONDUCT, AND WILL BE SUBJECT TO DISCIPLINARY ACTION.

Please refer to the General Polices website (see above) for detailed information pertaining to academic dishonesty, including procedures for determining disciplinary action. The Student Code of Conduct can be found at <https://policy.utdallas.edu/utdsp5003>.

Class Calendar, Assignments & Key Dates

Class	Dates	Material Covered	Assignment Due	Notes
1	Aug 21	Course Introduction Cloud Fundamentals	CC pg. 11-20, 26-45, 92-116	
2	Aug 28	AWS Introduction	AWSF pg. 11-27 AWS CO Module 0 & 1	
3	Sep 4	Identity Access Management	AWSF pg. 28-48 AWS CO Module 2	
4	Sep 11	Storage	AWSF pg. 208-226 AWS CO Module 3	
5	Sep 18	Compute	CC pg. 55-62 AWSF pg. 51-74 AWS CO Module 4	
6	Sep 25	Containers	AWSF pg. 76-106 AWS CO Module 5	
7	Oct 2	Midterm Review	AWS CO Module 6	Project Check
	Oct 9	Midterm		
8	Oct 16	Serverless Computing	CC pg. 46-55 AWSF pg. 108-142 AWS CO Module 7	
9	Oct 23	Database	AWSF pg. 146-162 AWS CO Module 8	
10	Oct 30	Serverless Database	AWSF pg. 164-206 AWS CO Module 9	
11	Nov 6	Messaging	AWSF pg. 228-296 AWS CO Module 10	
12	Nov 13	Networking Part 1	AWSF pg. 299-338 AWS CO Module 11	
13	Nov 20	Networking Part 2 Final Review	AWSF pg. 340-391 Project	
	Nov 27	Fall Break – No Class		
	Dec 4	Final		