

Course Info

COP 4931: Cloud Computing for IT - Fall 2017 - ONLINE

Prerequisite: COP 3515

University Course Catalog Description

Covers the methods and technologies of cloud computing. The creation, configuration, building, deployment and management of cloud-based solutions are explored.

Student Learning Outcomes

At the successful completion of this course the student will be able to:

1. Contrast the different categories of cloud computing services.
2. Apply load balancing and auto scaling to a cloud application.
3. Illustrate the fundamental concepts of cloud storage and demonstrate their use in storage systems such as Amazon S3 and HDFS.
4. Design, implement test and debug a Hadoop application.
5. Configure and deploy a cloud-hosted database.
6. Choose and apply appropriate security measures for a cloud-based system.
7. Design, configure, test and deploy a virtual private cloud utilizing a VPN connection.

Faculty Info

Professor

Professor	Phil Ventura, Ph.D.
Office	ENG 211
E-mail	Use Piazza (or Canvas messaging)
Website	http://www.usf.edu/engineering/cse/people/ventura-philip.aspx
Office Hours	MW 10:55 - 12:25

Teaching Assistant(s)

TA

Office	
E-mail	
Office Hours	

Required Text



Wadia, Y. (2016). *AWS Administration – the Definitive Guide*. Packt Publishing. ISBN-13: 978-1-78217-376-2

Grading

The class will consist of a number of assignments, projects, quizzes, and exams weighted as follows:

Assignments, projects, quizzes	45%
Discussions	10%
Mid-Term and Final Exam	45%

The following grading scale will be used for this course. Note there are no + or - grades.

The professor reserves the right to adjust grade cut-offs downward.

Course Average	Course Grade
90% and up	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
59% and below	F

In-person Exams

Both the Mid-Term Exam and the Final Exam will be administered face-to-face, that is, you must come to campus on the specified day/time to take the exams. This is a departmental policy.

Alternative arrangements will be made for those who are not within driving distance of USF.

The Mid-Term Exam is tentatively scheduled for Wednesday, October 10th, 2018 during our class period.

The Final Exam will be administered during our assigned time during final exam week.

Course Policies

Programming & Scripting Submissions

All submitted work must compile without syntax errors (compiler warnings are acceptable). **Any work submitted with syntax errors will receive a grade of 0** for that part/assignment.

As scripts may be used to assist grading, you must follow all directions, especially with regarding to naming files, functions, etc; as well as making sure your code meets the specification. Failure to follow such instructions will result in a grade of 0 for the work in question.

Canvas & Piazza

Students are expected to have their notifications set as "*Notify me right away*" or at least "*Daily Summary*" in Canvas.

Students are also expected to check discussions/Piazza regularly (at least daily).

Instructor Feedback Policy & Grade Dissemination

The TA(s) will provide feedback on assignments within a week of the posted last (late) day to submit the assignment, and feedback on exams within two weeks of the posted deadline. Graded tests and materials in this course will be returned individually only by request. You can access your scores at any time using "Grades" in Canvas.

Communication Policy

General questions about the course material, help for an assignment, etc. should be posted to Piazza. However, please refrain from providing code solutions. If you are in doubt you can make your Piazza post private in which case only the Professor and TAs will be able to see it.

Should you need to contact the professor for a matter related only to you and regarding the class, please send a message within Canvas email/messaging system. However, if it is for help on an assignment, etc. you are better off posting to Piazza where both the professor and the TA(s) will see it.

Expect replies within 24 hours during the week and within 48 hours over the weekend.

Netiquette Guidelines

General Communications Guidelines

1. Act professionally in the way you communicate. Treat your instructors and peers with respect, the same way you would do in a face-to-face environment. Respect other people's ideas and be constructive when explaining your views about points you may not agree with.
2. Be sensitive. Be respectful and sensitive when sharing your ideas and opinions. There will be people in your class with different linguistic backgrounds, political and religious beliefs or other general differences.
3. Proofread and check spelling. Doing this before sending an email or posting a thread on a discussion board will allow you to make sure your message is clear and thoughtful. Avoid the use of all capital letters, it can be perceived as if you are shouting, and it is more difficult to read.
4. Keep your communications focused and stay on topic. Complete your ideas before changing the subject. By keeping the message on focus you allow the readers to easily get your idea or answers they are looking for.
5. Be clear with your message. Avoid using humor or sarcasm. Since people can't see your expressions or hear your tone of voice, meaning can be misinterpreted.

Email and Discussion Board Guidelines

1. Use the subject line effectively by using a meaningful line of what your email or discussion is about.
2. Keep your emails and postings related to the course content. You should not post anything personal on a discussion board, unless is requested by the instructor.
3. Any personal, course or confidential issues should be directly communicated to the instructor via email. The discussion boards are public spaces; therefore any issues should not be posted there.

Late Work & Submission Policy

This semester I am trying out a new policy on late work.

The penalty for late work is 11 points (out of 100) **per day**. Note if your work is even 1 second past the deadline that counts as 1 day late.

But there is also a carrot to this stick. If you submit your work at least 24 hours before the deadline you will get 10 points (out of 100) **added** to your grade. Here is a chart illustrating the policy for an example due date of Aug 2 at 11:59 PM:

		Date	Reward/Penalty
Date assignment was posted	-	Aug 1st at 11:59:00 PM	+10 points (out of 100)
Aug 1st at 11:59:01 PM	-	Aug 2nd at 11:59:00 PM	none

Aug 2nd at 11:59:01 PM	-	Aug 3rd at 11:59:00 PM	-11 points (out of 100), i.e. an A drops to a B
Aug 3rd at 11:59:01 PM	-	Aug 4th at 11:59:00 PM	-22 points (out of 100), i.e. a B drops to a C
Aug 4th at 11:59:01 PM	-	Aug 5th at 11:59:00 PM	-33 points (out of 100), i.e. a C drops to a D
Aug 5th at 11:59:01 PM	-	Aug 6th at 11:59:00 PM	-44 points (out of 100), i.e. a D drops to a F
Aug 6th at 11:59:01 PM or later			No credit for assignment

Unless otherwise directed to, all assignments, quizzes, and exams will be submitted through Canvas in its appropriate place. **I do NOT accept email or printed submissions.**

I am not responsible when technology fails you. If you decide to wait until the last minute to submit, and are unable to submit due to technology problems you will still be subject to the late policy as stated above.

Regrading

If you feel that you wrongly lost points on an assignment, quiz, exam, etc. you must address the matter with the TA within 5 business days of when the work in question was graded. After the 5 business days, you forfeit the right for regrading.

Please restrict regrading issues solely to issues where you lost points but think your answer was in fact correct.

No *point weaseling*. For instance, requests of the nature that too many points were deducted for a given error, or that you need a certain grade will be denied on face.

Note that in the process of regrading, other deductions may be found that ultimately result in a score lower than that which you had originally.

Lecture Recording

Please be advised I will be using lecture recording technology in the classroom which could result in student voices being recorded.

Students are not allowed to record video/audio/photos of class and/or labs.

University Course Policies

Sexual Misconduct/Sexual Harassment Reporting

USF is committed to providing an environment free from sex discrimination, including sexual harassment and sexual violence (USF System Policy 0-004). The USF Center for Victim Advocacy and Violence Prevention is a confidential resource where you can talk about incidents of sexual harassment and gender-based crimes including sexual assault, stalking, and domestic/relationship violence. This confidential resource can help you without having to report your situation to either the Office of Student Rights and Responsibilities (OSSR) or the Office of Diversity, Inclusion, and Equal Opportunity (DIEO), unless you request that they make a report. Please be aware that in compliance with Title IX and under the USF System Policy, educators must report incidents of sexual harassment and gender-based crimes including sexual assault, stalking, and domestic/relationship violence.

If you disclose any of these situations in class, in papers, or **to me** personally, **I am required to report it to OSSR or DIEO for investigation**. Contact the USF Center for Victim Advocacy and Violence Prevention: (813) 974-5757.

Academic Conduct Policy

Academic dishonesty, cheating, in any form will not be tolerated. If you are uncertain as to what constitutes academic dishonesty, please consult the University of South Florida's Student Handbook for further details. While all of the violations noted in the Student Handbook will be enforced, note the policies on complicity and plagiarism.

In computing classes, plagiarism will include but is not limited to submitting any code as your own that you did not author. That includes open source code, code from books, classmates, students from previous semesters, code monkeys in foreign lands, etc. **All code that is not authored by you must be cited**. Consult the professor, before submitting used code, if you do not know how to properly cite it.

All work for the class including but not limited to assignments, exams, quizzes, and projects is to be completed individually unless otherwise explicitly noted.

Violations of academic conduct will result, **minimally**, in a grade of FF for the class. Note that confirmation of such incidents can also result in further sanctions all the way up to expulsion from the University.

Attendance Policy

USF requires attendance be taken the first day of classes. Students who are not present for the first day will be reported as not attending and dropped from the course. Otherwise, your attendance is expected and strongly encouraged.

Note if you are **absent** during any in-class assignment/activity, quiz, presentation, test or exam you will **receive a grade of 0** for it and you will **not be allowed a make up**.

If you know ahead of time that you will not be able to attend an exam due to *reasonable extenuating circumstances*, and you let the professor know at least 5 business days ahead of time, accomodation *may* be provided at the discretion of the professor. Reasonable extenuating circumstances do not include things like buying non-refundable plane tickets to leave prior to the

end of the semester. Note the accommodation may take the form of weighing your other exam(s) higher in grading.

If a reasonable extenuating circumstance arises that causes you to miss an exam, you must contact the professor immediately, on the same day, and again accommodation may be provided at the discretion of the professor.

Further, if you are absent you are expected to get the notes from a *reliable* friend in class. The professor is **not** your reliable friend. Do not expect the professor or TAs to reteach material that you missed due to absence.

Professionalism Policy

Per university policy and classroom etiquette; mobile phones, iPods, *etc.* **must be silenced** during all classroom and lab lectures. Additionally, you are to **never** conduct calls using your mobile devices in class/lab, unless expressly instructed to by the professor. If you receive a call that requires your attention, quickly and quietly without disrupting the class, leave the classroom/lab. Those not heeding these rule will be asked to leave the classroom/lab immediately so as to not disrupt the learning environment. Please arrive on time for all class meetings.

You may not sleep, put your head down, talk, or otherwise disrupt the learning environment.

Students who habitually disturb the class by talking, arriving late, *etc.*, and have been warned may suffer a reduction in their final class grade.

University Writing Center

The University Writing Center is a free resource for USF undergraduates and graduates. At the UWC, a trained writing consultant will work individually with you on anything you're writing (in or out of class), at any point in the writing process from brainstorming to editing. Appointments are recommended, but not required. For more information or to make an appointment, visit the UWC website at <http://www.lib.usf.edu/writing>, stop by LIB-125, or call 813.974.8293.

Grades of Incomplete

The current university policy concerning incomplete grades will be followed in this course. Incomplete grades are given only in situations where unexpected emergencies prevent a student from completing the course and the remaining work can be completed the next semester. Your professor is the final authority on whether you qualify for an incomplete. Incomplete work must be finished by the end of the subsequent semester or the "I" will automatically be recorded as an "F" on your transcript.

Disability Access

Students with disabilities are responsible for registering with Students with Disabilities Services (SDS) in order to receive academic accommodations. SDS encourages students to notify

instructors of accommodation needs at least 5 business days prior to needing the accommodation. A letter from SDS must accompany this request. See <http://www.sds.usf.edu>

Early Notification Requirement for Observed Religious Days

Students who anticipate the necessity of being absent from class due to the observation of a major religious observance must provide notice of the date(s) to the instructor, in writing, at the beginning of the term. See <http://ugs.usf.edu/catalogs/1516/pdf/ReligiousDays.pdf>.

Campus Emergencies

In the event of an emergency, it may be necessary for USF to suspend normal operations. During this time, USF may opt to continue delivery of instruction through methods that include but are not limited to Canvas and email messaging and/or an alternate schedule. It's the responsibility of the student to monitor the Canvas site for each class for course specific communication, and the main USF, College, and department websites, emails, and MoBull messages for important general information.

Right to Change Syllabus

The professor reserves the right to make changes to the syllabus.

Tentative Schedule

Note: This schedule is tentative and may be changed without notice, the definitive schedule is on Canvas.

Week	Topics	Due
Week 1	Intro to class, EC2	<i>Attendance Verification -- Student Intros</i> Aug 25 th
Week 2	More EC2, Linux command line, Windows Server in AWS	<i>Assgn: Sign-up for AWS</i> Aug 26 th
Week 3	Intro to CloudFormation	<i>Assgn: Hello, EC2!</i> Sep 5 th
Week 4	CloudFormation helper scripts	<i>Assgn: Hello, CloudFormation!</i> Sep 15 th
Week 5	Advanced CloudFormation	n/a
Week 6	Intro to Python	<i>Assgn: CloudFormation Helper Scripts</i> Sep 27 th
Week 7	Boto3 & Rekognition	<i>Assgn: CF Secure Amazon LAMP</i> Oct 5 th

Week 8	Mid-Term Exam In-class for all students	Mid-Term Exam, Oct 10 th
Week 9	S3 & Graphical Photo Labelling	Assgn: Google VM Oct 20 th
Week 10	AWS Lambda	<ul style="list-style-type: none"> • Assgn: S3 Static Website Oct 23rd • Assgn: Graphical Labels Oct 27th
Week 11	Serverless computing with Python & Chalice; and Polly	n/a
Week 12	VPC	Assgn: SayIt! Nov 10 th
Week 13	VPN with VPC	Assgn: VPC Nov 17 th
Week 14	EMR/Hadoop with MrJob	n/a
Week 15	Final Exam Review	<ul style="list-style-type: none"> • Assgn: VPN to VPC Nov 26th • Assgn: Grad Project Nov 26th • Assgn: MrJob Nov 28th
Week 16	Final Exam In-class for all students	During assigned time during Final Exam week
