**CIS 305 Syllabus  
CLOUD COMPUTING I  
Fall 2022**

**Faculty                                                                Class**Name: Kathleen Czurda-Page                     Location: Zoom web meet  
Email: Please use Canvas                               Days/time: Monday 5:30pm to 7:30pm  
Phone: Please start with Canvas (zoom)      Start date: Sept 19, 2023  
Office location: web meet                             End date: Dec 8, 2023  
Office hours: Monday 6:30pm to 7:30pm

**Communicating with the Instructor**

* All communication should be done via **Canvas.** All messages should have a subject heading clearly indicating the topic of the message
* Canvas e-mail will be checked in the evening and the instructor will do his/her best to give you a prompt response
* E-mails sent over the weekend may get a delayed response
* If you would like a more prompt response to your question please see the instructor after class or during lab

**Course**

**Credit hours:** 5.00 (3.00 lecture (2.00 lab 0 work site)

**Prerequisites:**  Program Admittance or permission of BAS program coordinator

**Co-requisite(s)**: None

**Recommended preparation:** Linux -- install packages, edit files, viewing log files; Basic knowledge of linux filesystems; Basic knowledge of computer networking; URL syntax.

**Required preparation:** None

**AAS degree requirements:** Unlisted Elective

**Fulfills additional requirements:** None

**Required texts**

**The Enterprise Cloud**1st Edition  
Author:  James Bond  
ISBN: 978-1-491-90762-7  
Publisher:  O’Reilly Media, Inc.

**NIST Cloud Computing Reference Architecture**Special Publication 500-292  
National Institute of Standards and Technology  
U.S. Department of Commerce  
Authors: Fang Liu, Jin Tong, Jian Mao, Robert Bohn, John Messina, Lee Badger and Dawn Leaf  
[http://www.nist.gov/customcf/get\_pdf.cfm?pub\_id=909505Links to an external site.](http://www.nist.gov/customcf/get_pdf.cfm?pub_id=909505)

**NIST Definition of Cloud Computing**Special Publication 800-145  
National Institute of Standards and Technology  
U.S. Department of Commerce  
Authors:Peter Mell, Timothy Grance  
http://nvlpubs.nist.gov/nistpubs/Legacy/SP/nistspecialpublication800-145.pdf

**CloudStack documentation (v 4.17)**Installation:  [https://docs.cloudstack.apache.org/en/latest/quickinstallationguide/qig.htmlLinks to an external site.](https://docs.cloudstack.apache.org/en/latest/quickinstallationguide/qig.html)  
Administration:  [https://docs.cloudstack.apache.org/en/latest/adminguide/index.htmlLinks to an external site.](https://docs.cloudstack.apache.org/en/latest/adminguide/index.html)  
CloudStack web:  [http://cloudstack.apache.org/Links to an external site.](http://cloudstack.apache.org/)

**Recommended other resources**

All other course material will be available online on Whatcom’s Canvas portal at https://wcc.instructure.com/login or at other locations specified on the internet.

**Required or recommended materials**

      None

**Course Description**

Analyze and apply the various technologies and services that enable cloud computing, interpret different types of cloud computing models, and analyze the security and legal issues associated with cloud computing. Compare each type of service/model of cloud computing, local resource requirements, local controls, networking requirements, and security.

**Course outcomes: Upon successful completion of this course, each student should be able to...**

* 1. Analyze cloud storage systems
  2. Evaluate cloud infrastructure
  3. Compare each type of service/model of cloud computing.
  4. Compare resource requirements.
  5. Apply cloud security risks and mitigation techniques

**Program outcomes (prof-tech programs only): Upon successful completion of this course, students will have practiced the following program outcomes...**

IT NETWORKING degree

1. Explain network topologies, including protocols, ports, addressing schemes, routing, and wireless communication standards.
2. Apply network design principles to meet client needs.
3. Perform the basics of computer and network security.
4. Install and configure network devices.

**Core learning abilities:** WCC's core learning abilities (CLAs) - quantitative literacy, information literacy, communication, critical thinking, and global consciousness - are skills taught and reinforced throughout our curriculum. These skills are integral to students' professional and personal lives. This course will give you the opportunity to practice and develop Information literacy.

**Course evaluation policies**

**Grading Scale**

A = 100 – 94               B = 86 – 84                 C = 76 – 74                 D = 66 – 60

A- = 93 – 90                B- = 83-80                  C- = 73 - 70                 F = 59 - 0

B+ = 89 – 87               C+ = 79 – 77               D+ = 69 – 67

**Grade Weighting**

                                                                     Number of Assignments  
Written Exercises:        15%                             5  
Discussions:                15%                             3  
Hands-On Labs:           20%                             6  
Midterm Quiz:              20%                             1  
Final Project:               30%                             1 (Document and presentation parts)

**Exams**

No makeup exams will be given without prior arrangement and only in the case of exceptional events. Preplanned events, no matter how important to you, are NOT exceptional events.

**Missed/Late Assignments**

No late assignments will be graded. If you wait until the last minute to complete the assignment and find that your internet connection is down, well, you should have done the assignment earlier.

Labs are generally due at the end of the week. Any extension of this deadline will need to be discussed with the instructor in advance. Students who miss the lab are still responsible for the content of that missed lab.

If the course has a project, each step of the project must be completed by its due date to receive credit. Note that often if a step is not completed by its due date, it may be necessary to complete that step in order to perform the next step of the project. Don't let yourself get behind!!

**Working in Groups**

Unless specifically stated, all work must be done individually. While you may ask other students for guidance, you must do all work yourself and what is turned in must reflect your own work.

Some assignments are specifically stated to be completed as a group. Grading on these assignments varies. In some cases, all members of the group are equally responsible for all of the results and receive the same point total. In other cases, each member of the group is responsible for one portion of the assignment and will be given points based on that portion. Or it may be a combination of the two.

When working with a group you will be expected to work together in a professional manner.

**Disability accommodations:** Any student with a disability requiring auxiliary aids, services, or other reasonable accommodations should contact the disability support services office in the entry and advising center (LDC 116, 360-383-3080 or 360-255-7182 [VP]).  
  
**Student conduct expectations**

**Ethics**

This class was not designed for individuals who wish to carry out malicious and destructive activities. It is for people who are interested in extending or perfecting their skills to defend against such attacks and damaging acts. If at any time it is found that you have been using any of these skills in an illegal manner you will be reported to the Whatcom CC BIT team for disciplinary action and you will likely be removed from the CIS Program.

**Student Behavior and Professionalism**

You are expected to behave in a respectful, professional manner toward your fellow students and your instructor. Disrespectful or disruptive behavior will not be tolerated and you will be asked to leave the lab if you persist. Cheating on tests or other work is unprofessional and dishonest and will not be tolerated under any circumstances. Plagiarism from internal or external sources will not be tolerated. If you have to use a source other than your own in any of your submissions, please clearly cite the source in an appropriate format.

The use of cell phones during class presents a distraction to both the instructor and fellow students. Therefore, your instructor will tolerate no cell phone distractions. Cell phones should be turned off or set to vibrate during class. If you must answer your phone please leave the classroom before answering.

It is the endeavor of WCC to turn out students who would be professionals in their field. We therefore insist that your etiquette reflect real world professionalism. This should manifest in your attitude toward your fellow classmates, your instructors and your work ethics in both oral and written form.

**Be warned that disruptive behavior which interferes with the learning of the rest of the class will result in your being asked to leave the classroom as well as being reported.**

**Academic Integrity**

Students may not copy files, papers, exams, or any other work that you are presenting as your own. Students who do so will receive an F for the course and will be referred to the Dean of Students for disciplinary action, which may include removal from the CIS program.

Academic honesty is essential to learning in college. Cheating and plagiarism are serious violations of the WCC Student Rights and Responsibilities and will result in college disciplinary action.

**Tentative course schedule**

**Class Hours:**

Webmeet in Zoom Tuesdays at 5:30pm

**Support services and resources available**

**Early alert referral system**WCC is committed to supporting the academic success of all its students. The College has adopted a proactive early alert referral system, which is a collaborative, student-centered program involving faculty, advisors and students. The early alert referral system is a tool for faculty to identify students who are experiencing academic or attendance difficulties during the first few weeks of each quarter. Students who receive an alert will be contacted by someone on the early alert student success team to direct them to appropriate next steps and resources for success. As your instructor, I also encourage you to contact me if you receive an alert so we can discuss options for helping you to be successful in this course and at WCC. An early alert webpage with campus resource information is located at www.whatcom.ctc.edu/get-started/advising-career-services/early-alert.  
  
**The learning center** offers up to two hours of one-on-one tutoring support for WCC courses in a variety of disciplines. Located in Cascade 113, the learning center is open Monday through Thursday 9 am to 6 pm and Fridays 9 am to 2 pm during the academic year. Call 360-383-3097 or visit [www.whatcom.ctc.edu/student-services/campus-resources/learning-center/Links to an external site.](http://www.whatcom.ctc.edu/student-services/campus-resources/learning-center/) for more details.  
  
**The math center**offers drop-in tutoring and reservation-based private tutoring for all mathematics courses taught at WCC. Math center services are free, and there are tutors trained to help you with your math support needs. Located in Cascade 113, the math center is open Monday through Thursday 9 am to 6 pm and Fridays 9 am to 2 pm during the academic year. Call 360-383-3090 or visit [www.whatcom.ctc.edu/student-services/campus-resources/learning-center/Links to an external site.](http://www.whatcom.ctc.edu/student-services/campus-resources/learning-center/) for more details.  
  
In **the writing center**, located in Cascade 112, student readers work with WCC students who are writing for all classes as well as for job and college applications. Writing center services are free, and there are talented, helpful readers there who will talk with you about what you are working on for this class and at any stage of the writing process. The staff will also respond to your writing online ([writing.whatcom.ctc.edu/Links to an external site.](http://writing.whatcom.ctc.edu/)). See the website for hours.  
  
The **student access computer lab** (SAL) in Heiner 104/105 provides students access to their student network accounts, email, scanning, faxing, and printing and copying (black and white and color). Laptops, flip video cameras, and digital cameras are available for checkout.  
  
The **student helpdesk** staff (in Heiner 104/105) is available to answer questions about access to course management systems, use of online resources, student email, and common software used by students. Call 360-383-3410 or email [studenthelpdesk@whatcom.ctc.edu](mailto:studenthelpdesk@whatcom.ctc.edu) for service hours.  
  
**Entry and advising** offers a variety of services for students, including advising, academic degree planning, career services, counseling, veterans services, and disability support services. Located in LDC 116, the entry and advising office is open Monday through Thursday 9 am to 5 pm and Fridays 9 am to 12 noon. Call 360-383-3080 or email [advise@whatcom.ctc.edu](mailto:advise@whatcom.ctc.edu) for more details or to schedule an appointment.  
  
The **library** provides help with research at the reference desk and offers online resources, books, reserve items, maps, video, and audio materials. 24/7 reference help is available online at [www.library.whatcom.ctc.eduLinks to an external site.](http://www.library.whatcom.ctc.edu/). Located in the Heiner building, the library is open Monday through Thursday 9 am to 9 pm, Fridays 8 am to 5 pm, and Saturdays 12 noon to 4 pm.

Course Summary:

| **Date** | **Details** | **Due** |
| --- | --- | --- |
| Mon Oct 2, 2023 | Assignment [Creating Projects in Google Cloud](https://wcc.instructure.com/courses/2380482/assignments/31256680) | due by 11:59pm |
| Tue Oct 3, 2023 | Assignment [Configure Isolated Network (outernetwork1)](https://wcc.instructure.com/courses/2380482/assignments/30850803) | due by 11:59pm |
| Wed Oct 4, 2023 | Assignment [Readings 1](https://wcc.instructure.com/courses/2380482/assignments/30850811) | due by 11:59pm |
| Sun Oct 8, 2023 | Discussion Topic [Difference between "Control" and "Management"](https://wcc.instructure.com/courses/2380482/assignments/30850800) | due by 11:59pm |
| Assignment [Readings 2](https://wcc.instructure.com/courses/2380482/assignments/30850817) | due by 11:59pm |
| Sun Oct 15, 2023 | Assignment [Hands On: Build Single System Cloud Dev Environment](https://wcc.instructure.com/courses/2380482/assignments/30850807) | due by 11:59pm |
| Mon Oct 16, 2023 | Assignment [Readings 3](https://wcc.instructure.com/courses/2380482/assignments/30850818) | due by 11:59pm |
| Sun Oct 22, 2023 | Assignment [Hands On: add a second compute host to your cloud](https://wcc.instructure.com/courses/2380482/assignments/30850804) | due by 11:59pm |
| Mon Oct 23, 2023 | Assignment [Readings 4](https://wcc.instructure.com/courses/2380482/assignments/30850819) | due by 11:59pm |
| Assignment [Readings 5](https://wcc.instructure.com/courses/2380482/assignments/30850820) | due by 11:59pm |
| Sun Oct 29, 2023 | Assignment [Hands On: Working with a Hybrid Ecosystem](https://wcc.instructure.com/courses/2380482/assignments/30850809) | due by 11:59pm |
| Assignment [Written Exercise: Abstract an article regarding a physical element of a Cloud Data Center](https://wcc.instructure.com/courses/2380482/assignments/30850825) | due by 11:59pm |
| Assignment [Written Exercise: Diagram your Architecture](https://wcc.instructure.com/courses/2380482/assignments/30850826) | due by 11:59pm |
| Mon Nov 6, 2023 | Quiz [Midterm Quiz](https://wcc.instructure.com/courses/2380482/assignments/30850797) | due by 11:59pm |
| Sun Nov 19, 2023 | Assignment [Hands On: Start Securing Your Cloud](https://wcc.instructure.com/courses/2380482/assignments/30850808) | due by 11:59pm |
| Sun Nov 26, 2023 | Assignment [Hands on: Adding, Moving, Removing Disk Drives](https://wcc.instructure.com/courses/2380482/assignments/30850805) | due by 11:59pm |
| Assignment [Written Exercise: Preparing and Fixing Cloud Storage](https://wcc.instructure.com/courses/2380482/assignments/30850828) | due by 11:59pm |
|  | Quiz [CIS Student Statement of Responsibility - (Updated 9/23/20) Complete the quiz by 9/24/2023](https://wcc.instructure.com/courses/2380482/assignments/30850798) |  |
| Assignment [Present Research to Class on Monday, December 2](https://wcc.instructure.com/courses/2380482/assignments/30850810) |  |
| Assignment [Readings 1](https://wcc.instructure.com/courses/2380482/assignments/31062080) |  |
| Assignment [Readings 7](https://wcc.instructure.com/courses/2380482/assignments/30850821) |  |
| Assignment [Readings 8](https://wcc.instructure.com/courses/2380482/assignments/30850823) |  |
| Assignment [Roll Call Attendance](https://wcc.instructure.com/courses/2380482/assignments/31217417) |  |
| Assignment [Submit the Completed Research Paper and Presentation by Friday, December 1](https://wcc.instructure.com/courses/2380482/assignments/30850824) |  |
| Discussion Topic [What is Cloud Computing](https://wcc.instructure.com/courses/2380482/assignments/30850801) |  |
| Assignment [Written Exercise: SaaS, PaaS, IaaS](https://wcc.instructure.com/courses/2380482/assignments/30850829) |  |