

Credit Hours: 3

Contact Hours: This is a 3-credit course, offered in accelerated format. This means that 16 weeks of material is covered in 8 weeks. The exact number of hours per week that you can expect to spend on each course will vary based upon the weekly coursework, as well as your study style and preferences. You should plan to spend 14-20 hours per week in each course reading material, interacting on the discussion boards, writing papers, completing projects, and doing research.

Faculty Information: Faculty contact information and office hours can be found on the faculty profile page.

COURSE DESCRIPTION AND OUTCOMES

Course Description:

This course emphasizes the business applications of cloud computing. Students will learn about cloud computing concepts, architecture, and service management. They will understand the advantages and disadvantages associated with a cloud computing platform for business applications, such as those related to financial feasibility, business benefits, and security risks. Students will learn to apply standards and best practices to evaluate alternative cloud solutions in determining which is most appropriate for a given business environment. This course also includes a teamwork component that is based on project management principles to design a cloud-based application.

Course Overview:

Cloud computing is changing the way businesses and users interact with computers and mobile devices. Instead of expensive data centers, racks of disk drives, and large IT support teams, business are leveraging software applications delivered to users on demand from the cloud; high-capacity, auto-replicated, secure cloud-based disk-storage and databases, and virtualized-server and desktop environments; and cloud-based collaboration tools which support on premise-, remote-, and hybrid-cloud models.

Students will find a hands-on introduction to the cloud, which will have them using cloud-based data storage to store personal documents and to share photos and other digital media with other users and their own various devices, performing cloud-based automated backups, and using other cloud-based applications. Students will learn specifics about Software as a Service (SaaS), Platform as a Service (PaaS), Infrastructure as a Service (IaaS), Identity as a Service (IDaaS), server, storage, and desktop virtualization.

Course Learning Outcomes:

1. Discuss data center design principles.
2. Discuss security, privacy, and interoperability as they relate to enterprise cloud computing.
3. Identify an appropriate cloud-computing solution based on the business applications.
4. Compare and contrast public cloud, private cloud, and hybrid cloud.
5. Articulate the key technologies and future possibilities for cloud computing.
6. Evaluate various services and contracts to determine the most appropriate for a given situation.

PARTICIPATION & ATTENDANCE

Prompt and consistent attendance in your online courses is essential for your success at CSU-Global Campus. Failure to verify your attendance within the first 7 days of this course may result in your withdrawal. If for some reason you would like to drop a course, please contact your advisor.

Online classes have deadlines, assignments, and participation requirements just like on-campus classes. Budget your time carefully and keep an open line of communication with your instructor. If you are having technical problems, problems with your assignments, or other problems that are impeding your progress, let your instructor know as soon as possible.

COURSE MATERIALS

Required:

Jamsa, K. (2013). *Cloud computing: SaaS, PaaS, IaaS, virtualization, business models, mobile, security and more*. Burlington, MA: Jones & Bartlett Learning. ISBN: 9781449647391

Suggested:

NOTE: All non-textbook required readings and materials necessary to complete assignments, discussions, and/or supplemental or required exercises are provided within the course itself. Please read through each course module carefully.

COURSE SCHEDULE

Due Dates

The Academic Week at CSU-Global begins on Monday and ends the following Sunday.

- **Discussion Boards:** The original post must be completed by Thursday at 11:59 p.m. MT and Peer Responses posted by Sunday 11:59 p.m. MT. Late posts may not be awarded points.
- **Opening Exercises:** Take the opening exercise before reading each week's content to see which areas you will need to focus on. You may take these exercises as many times as you need. The opening exercises will not affect your final grade.
- **Mastery Exercises:** Students may access and retake mastery exercises through the last day of class until they achieve the scores they desire.
- **Critical Thinking:** Assignments are due Sunday at 11:59 p.m. MT.

WEEKLY READING AND ASSIGNMENT DETAILS

Module 1

Readings

- Chapter 1 in *Cloud Computing*
- Johnston, K. A., Loot, M., & Esterhuyse, M. P. (2016). The business value of cloud computing in South Africa. *African Journal of Information Systems*, 8(2), 1-20.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Module 2

Readings

- Chapters 2 & 3 in *Cloud Computing*
- Button, K. (2015). Considering the cloud. *Cfo*, 31(1), 41.
- McCollum, T. (2016). Cloud at the tipping point. *Internal Auditor*, 73(3), 13.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Critical Thinking (90 points)

SaaS Providers

Your employer is interested in finding SaaS solutions for the following business functions:

- Sales and customer relationship management
- Accounting
- Human resources
- Payroll
- Social networking.

Search the web and find SaaS providers for each business function. In a report to your CIO, briefly describe the capabilities of each SaaS provider. What capabilities differentiate that provider's product from the competition? Are there any special licensing, security, or contractual requirements with that provider's product? Recommend two SaaS providers that could create the greatest business value to the company.

Report requirements:

- Your report should be three to four pages in length.
- The page count should not include the title page and references page.
- Cite at least two credible sources other than the textbook. One source must be from a peer-reviewed journal or conference publication.

Follow the CSU-Global Guide to Writing & APA and review the library material concerning APA style before turning in this assignment.

Portfolio Milestone (25 points)

Amazon Cloud Provider

Assume your company, or a company you are familiar with, is interested in using Amazon as a cloud provider. Your CIO asked you to investigate Amazon's Cloud Offerings. The CIO needs answers to the following questions.

Prepare a brief presentation of your findings.

1. Which Cloud Deployment Model should your company consider and why?
2. Which Cloud Service Model(s) should your company consider and why?
3. What is the approximate cost for provisioning and utilizing a representative configuration on Amazon? The configuration is 2 CPUs, 8 MB of memory, and 40 GB of storage.

Presentation requirements:

- The presentation should be six to eight slides in length.
- The slides should contain summary points; detailed content should be in the speaker notes with no less than 100 words per slide.

- The slide count should not include the title slide and references slide.
- Cite at least one credible source other than the textbook.

Follow the CSU-Global Guide to Writing & APA and review the library material concerning APA style before turning in this assignment.

Module 3

Readings

- Chapters 4 & 5 in *Cloud Computing*
- Zabolotnyi, R., Leitner, P., Hummer, W., & Dustdar, S. (2015). JCloudScale: Closing the gap between IaaS and PaaS. *ACM Transactions on Internet Technology (TOIT)*, 15(3), 1-20.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Critical Thinking (90 points)

IaaS Service Module

Assume your company, or a company you are familiar with, is planning to release a new web-enabled application.

Prepare a paper illustrating the potential for using an IaaS service model for this deployment. Include your analysis of the following capabilities in your paper:

- Load balancing
- System and storage redundancy
- Physical, dedicated virtual, and shared virtual servers
- Disk storage.

Paper requirements:

- Your paper should be three to four pages in length.
- The page count should not include the title page and references page.
- Cite at least two credible sources other than the textbook. One source must be from a peer-reviewed journal or conference publication.

Follow the CSU-Global Guide to Writing & APA and review the library material concerning APA style before turning in this assignment.

Module 4

Readings

- Chapters 6 & 7 in *Cloud Computing*
- Armstrong, M. (2015). Lock down the cloud. *Men's Fitness*, 31(4), 62.
- Chang, V., & Wills, G. (2016). A model to compare cloud and non-cloud storage of big data. *Future Generation Computer Systems*, 57, 56-76.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Portfolio Milestone (50 points)

Report Outline

Prepare a detailed outline of the final report required by the Module 8 Portfolio Project. Review the Portfolio Project requirements form in Module 8 to ensure all requisite sections are presented in the outline.

The outline should provide sufficient detail so that your instructor can determine if you grasp the size and complexity of the Portfolio Project and that all the required elements are addressed.

Paper requirements:

- The outline should be four to five pages in length.
- The page count should not include the title page and references page.

Follow CSU-Global Guide to Writing & APA style and review the library material concerning APA style before turning in this assignment.

Module 5

Readings

- Chapters 7, 8, & 9 in *Cloud Computing*
- Hulme, G. V. (2015). Cloud security comes of age. *Forbes*, 196(7), 62-63.
- Mattei, M., & Satterly, E. (2016). Integrating virtualization and cloud services into a multi-tier, multi-location information system business continuity plan. *Journal of Strategic Innovation and Sustainability*, 11(2), 70-80.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Critical Thinking (90 points)

Business Impacts from the Cloud

Your organization's CIO recently read the Harvard Business Review article *How Cloud Computing Is Changing Management* by Quentin Hardy. The CIO asked you to review the article and prepare a report answering these questions:

1. What characteristics of cloud computing, and its service and delivery models, are driving the organizational change discussed in the article?
2. What characteristics of cloud computing, and its service and delivery models, are impacting product designs and customer experiences?
3. Why does cloud-based computing require increased organizational innovation, highly trained human capital, and updated social institutions such as infrastructure and regulations to optimize its effectiveness?
4. Why should our company concern itself with transitioning to "cloud native" software approaches?

Paper requirements:

- Your paper should be four to six pages in length.
- The page count should not include the title page and references page.

- Cite at least two credible sources other than the textbook. One source must be from a peer-reviewed journal or conference publication.
Follow the CSU-Global Guide to Writing & APA and review the library material concerning APA style before turning in this assignment.

Module 6

Readings

- Chapters 12 & 13 in *Cloud Computing*
- Boulton, C. (2017). The 5 fundamentals of effective cloud management. *Computerworld Hong Kong*.
- Hani, A., Paputungan, I., & Hassan, M. (2015). Renegotiation in service level agreement management for a cloud-based system. *ACM Computing Surveys (CSUR)*, 47(3), 1-21.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Critical Thinking (100 points)

Migration to the Cloud

Prepare an unsolicited proposal to migrate one of your company's applications to the cloud. The purpose of the proposal is to document what your company should consider before embarking on the migration. Prepare a proposal covering the following considerations:

- Training
- Accurately defined and documented requirements
- Migration planning
- Governance
- Operational policies and procedures.

Paper requirements:

- Your paper should be four to six pages in length.
- The page count should not include the title page and references page.
- Cite at least two credible sources other than the textbook.

Follow the CSU-Global Guide to Writing & APA and review the library material concerning APA style before turning in this assignment.

Module 7

Readings

- Chapters 14, 15, & 16 in *Cloud Computing*
- Newson, J. (2015). The real benefits of cloud computing. *Recruiter*, 20.
- Rebollo, O., Mellado, D., Fernández-Medina, E., & Mouratidis, H. (2015). Empirical evaluation of a cloud computing information security governance framework. *Information and Software Technology*, 58, 44-57.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Module 8

Readings

- Chapters 17 & 20 in *Cloud Computing*
- Boulton, C. (2016). 6 trends that will shape cloud computing in 2017. *CIO (13284045)*, 1.
- Chourasia, S., Linying, D., & Prescod, F. (2015). Cloud computing adoption by a cloud service provider: Key adoption factors. *Proceedings of the International Conference on Information Management & Evaluation*, 33-39.

Opening Exercise (0 points)

Discussion (25 points)

Mastery Exercise (10 points)

Portfolio Project (275 points)

Best Cloud-Based Solution

Your company's CIO is interested in hosting several existing and new applications on a cloud. The CIO requests that you conduct some research to determine the most appropriate cloud computing solution for the needs of the application. The goal of your research is to create a comprehensive assessment document to assist IT in determining the best cloud-based solution for a given application.

The assessment document should detail the factors your organization consider when making a cloud computing decision. The assessment document should cover the following topics:

- Cloud deployment model(s)
- Cloud service model(s)
- Cloud storage
- Cloud security
- Cloud management
- Cloud solution design—functional and non-functional requirements.

For example, under cloud deployment models, what questions must be answered in order to determine if a public, private, hybrid, or community cloud is the correct solution?

Final project deliverable:

- Your paper should be 10 to 12 pages in length.
- The page count should not include the title page and references page.
- Cite at least four credible sources other than the textbook, including two from peer-reviewed journal or conference publications.

Follow the CSU-Global Guide to Writing & APA and review the library material concerning APA style before turning in this assignment.

COURSE POLICIES

Grading Scale	
A	95.0 – 100
A-	90.0 – 94.9
B+	86.7 – 89.9
B	83.3 – 86.6
B-	80.0 – 83.2
C+	75.0 – 79.9
C	70.0 – 74.9
D	60.0 – 69.9
F	59.9 or below

Course Grading

20% Discussion Participation
0% Opening Exercises
8% Mastery Exercises
37% Critical Thinking Assignments
35% Final Portfolio Project

IN-CLASSROOM POLICIES

For information on late work and incomplete grade policies, please refer to our [In-Classroom Student Policies and Guidelines](#) or the Academic Catalog for comprehensive documentation of CSU-Global institutional policies.

Academic Integrity

Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing /re-purposing your own work (see CSU-Global Guide to Writing & APA for percentage of repurposed work that can be used in an assignment), unauthorized possession of academic materials, and unauthorized collaboration. The CSU-Global Library provides information on how students can avoid plagiarism by understanding what it is and how to use the Library and Internet resources.

Citing Sources with APA Style

All students are expected to follow the CSU-Global Guide to Writing & APA when citing in APA (based on the APA Style Manual, 6th edition) for all assignments. For details on CSU-Global APA style, please review the APA resources within the CSU-Global Library under the “APA Guide & Resources” link. A link to this document should also be provided within most assignment descriptions in your course.

Disability Services Statement

CSU-Global is committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability requesting academic accommodations should contact the Disability Resource Coordinator at 720-279-0650 and/or email ada@CSUGlobal.edu for additional information to coordinate reasonable accommodations for students with documented disabilities.

Netiquette

Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and the unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom. If you have concerns about something that has been said, please let your instructor know.