IS 460 Enterprise Cloud Computing

Course Description:

Cloud concepts, architecture, and service management, with particular emphasis upon identifying and analyzing potential business applications of cloud computing. Students will conduct feasibility studies, detailing the advantages and disadvantages of implementing a cloud computing platform for specific applications, with particular emphasis upon financial considerations, business benefits, and security risks. Students will develop the ability to evaluate alternatives and effectively argue in favor of their choices within the cloud computing knowledge domain. They will be able to define, apply, and defend the need for standards and best practices.

Instructor Information:
- Instructor: Ryan Pikus
- Email: rpikus@depaul.edu

Prerequisite:

- IT 240 for IS 360 students
- None for IS 460 students

Grading (all due dates per d2l):

Activity	Count	Details	Weight
Assignments	4	4 total individual homework assignments	30%
Quizzes	~8	1 every week due day **before next class** (not on exam weeks)	20%
Exams	2	1 Mid-term & 1 Final	40%
Participation	--	In-Person &/or Discussion (based on enrollment type)	10%

Below grading scale is directional – curve may be considered by faculty depending on the distribution of grades.

A	93-100	C+	77-79
A-	90-92	C	73-76
B+	87-89	C-	70-72
B	83-86	D+	67-69
B-	80-82	D	60-66

Recommended Reading: #1 is required, #2 is optional

1. **Cloud Computing Basics: A Non-Technical Introduction (2021) by Anders Lisdorf (required)**
2. Cloud Computing (2017) by Sandeep Bhowmik (optional)

Weekly Topics:

WK	Topics	Readings*
1	Review of syllabus & course expectations; overview of cloud computing technologies; basic terminology; service models; deployment models; major vendors & platforms; industry case study;	Syllabus, Chapter 1 – 3, 9
2	Overview of cloud infrastructure; cloud compute; vendor examples; industry case study;	Chapter 10
3	Cloud storage models & management; vendor examples; industry case study;	Chapter 10
4	Cloud database services - overview; relational databases; non-relational databases; vendor examples; industry case study;	Chapter 10
5	Cloud networking & security; scaling; load balancing; vendor examples; industry case study;	Chapter 11
6	Midterm exam	
7	Cloud & big data analytics; cloud data warehouse; AI & machine learning; vendor examples; industry case study;	Chapter 10
8	Application development – cloud native, serverless, DevOps, CI/CD, modernization, APIs; service-oriented architecture; vendor examples; industry case study;	Chapter 10
9	Transitioning to cloud; cost management; capacity planning; SRE; vendor examples; industry case study;	Chapter 12 - 14
10	Course summary and review for the final exam; industry case study;	
11	Final exam	

*"chapter" in the reading section is referring to the recommended reading [1]

Schedule (subject to change, always follow d2l or communication from me):

Classes – typically every Tuesday starting Jan 9 @ LEWIS 1110 at Loop Campus from 5:45 PM – 9:00 PM
Office Hours - typically every Tuesday (before class) starting Jan 9 @ LEWIS 1110 at Loop Campus OR Online - send me an email to schedule a call

Target Audience:

Our target audience is those who want to know the overview of cloud computing from the managerial perspective. They are expected to learn the managerial meaning of key concepts and use cases of computing service models and technology choices, while having a high-level understanding of the technical complexities involved.

Learning Outcomes:

Upon completion of the course, the students will be able to:
- Explain key terms of cloud computing to people with non-IT background

- Define major concepts of cloud computing technologies along with their use cases
- Cite managerial issues on cloud computing service models and data management options

COURSE POLICIES

Permitted and Prohibited Uses of Generative AI & Academic Integrity:

The use of generative AI tools is permitted in this course for the following activities:
- Brainstorming ideas
- Fine tuning your research questions
- Exploring what you need to learn about your topics
- Drafting outlines
- Checking grammar

If you use generative AI in any of the above ways, please describe the tools you used, and how you used them, in a paragraph at the end of your discussion post or essay. Please include the prompts you provided to the generative AI tools.

The use of generative AI tools is prohibited in this course for the following assignments and activities:
- Composing discussion board posts and responses
- Writing reflections, including exit tickets and process logs
- Writing drafts of a writing assignment
- Writing paragraphs used to complete any assignments
- Completing exams, quizzes, or any other form of graded material

If you are unsure about whether or not a specific tool or use of AI is permitted, please contact me. Using generative AI in a way that is not permitted is considered a violation of DePaul's Academic Integrity Policy.

Changes to Syllabus:

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email.

Respect for Diversity & Inclusion at DePaul University as aligned with our Vincentian Values:

At DePaul, our mission calls us to explore "what must be done" in order to respect the inherent dignity and identity of each human person. We value diversity because it is part of our history, our traditions and our future. We see diversity as an asset and a strength that adds to the richness of classroom learning. In my course, I strive to include diverse authors, perspectives and teaching pedagogies. I also encourage open dialogue and spaces for students to express their unique identities and perspectives. I am open to having difficult conversations and I will strive to create an inclusive classroom that values all perspectives. If at any time, the classroom experience does not live up to this expectation, please feel free to contact me via email or during office hours.

Online Course Evaluations:

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Please see https://resources.depaul.edu/teaching-commons/teaching/Pages/online-teachingevaluations.aspx for additional information.

Academic Integrity and Plagiarism:

This course will be subject to the university's academic integrity policy. All students are expected to abide by the University's Academic Integrity Policy which prohibits cheating and other misconduct in student coursework. Publicly sharing or posting online any prior or current materials from this course (including exam questions or answers), is considered to be providing unauthorized assistance prohibited by the policy. Both students who share/post and students who access or use such materials are considered to be cheating under the Policy and will be subject to sanctions for violations of Academic Integrity.

More information can be found at:
https://resources.depaul.edu/teachingcommons/teaching/academic-integrity/Pages/default.aspx

Posting work on online sites, such as Hero

All students are expected to abide by the University's Academic Integrity Policy which prohibits cheating and other misconduct in student coursework. Publicly sharing or posting online any prior or current materials from this course (including exam questions or answers), is considered to be providing unauthorized assistance prohibited by the policy. Both students who share/post and students who access or use such materials are considered to be cheating under the Policy and will be subject to sanctions for violations of Academic Integrity.

Academic Policies:

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at:
http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx

Incomplete Grades:

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptions cases will receive such approval. Information about the Incomplete Grades policy can be found at: http://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx

Preferred Name & Gender Pronouns:

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the quarter so that I may make appropriate changes to my records. Please also note that students may choose to identify within the University community with a preferred first name that differs from their legal name and may also update their gender. The preferred first name will appear in University related systems and documents except where the use of the legal name is necessitated or required by University business or legal need. For more information and instructions on how to do so, please see the Student Preferred Name and Gender Policy at http://policies.depaul.edu/policy/policy.aspx?pid=332

Students with Disabilities:

Students seeking disability-related accommodations are required to register with DePaul's Center for Students with Disabilities (CSD) enabling them to access accommodations and support services to assist with their success.

There are two office locations:
- Loop Campus (312) 362-8002
- Lincoln Park Campus (773) 325-1677
- Email: csd@depaul.edu

Students who register with the Center for Students with Disabilities are also invited to contact Dr. Gregory Moorhead, Director of the Center, privately to discuss how he may assist in facilitating the accommodations to be used in a course. This is best done early in the term. The conversation will remain confidential to the extent possible. Please see https://offices.depaul.edu/student-affairs/about/departments/Pages/csd.aspx for Services and Contact Information.

Online office hours (online sections only):

Faculty should be accessible to students using Zoom, Skype or other similar platforms for the duration of the office hours. Faculty must be accessible on the designated platform for the duration of the office hours.