

Course Syllabus

Course Information

Course Number: MIS 6363.001
Course Title: Cloud Computing – MIS
Term: Fall 2016
Class Location: JSOM 1.110
Class Time: Every Saturday 8.30AM – 11.15AM (except as notified per email/syllabus)
First Meeting: Sat, Aug 27, 2016
Final Exam: **Date & Time:** TBD
Location: Testing Center (reserve your seats)
Grades Due: Fri, Dec 16, 2016

Professor Contact Information

Name: Gurvinder Ahluwalia
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Office Location: JSOM 2.409 (by appointment only)
Office Hours: By appointments only. Please email to coordinate schedules.

TA Contact Information

Name: Rishabh Verma
Email: rxv151930@utdallas.edu
Office Location: TBD
Office Hours: TBD (or by prior appointment)

Course Pre-requisites, Co-requisites, and/or Other Restrictions

No pre-required course. The course assumes a reasonable comfort and background about Information Technology and Management Information Systems. Students who have a background in distributed systems, virtualization, and service oriented computing or students who are able to read up on these topics on their own initiative will benefit (see book list below, under readings "For Background Advantage").

Course Description

Context: A less visible but massive change is underway of a scale akin to the World Wide Web and Dot Com, if not larger. The hardware, software, and automation at all levels is being re-plumbed. Both, the delivery and consumption of compute capabilities, development platforms, and end user applications are being re-dispensed. The software stack across the world as we know it is being re-ordered. This is not just a technology shift, but also a rebalance of market power and value migration among old players and new entrants. In short, cloud computing has evolved a new era for digital business through ubiquitous access, subscription consumption, and ease of use of computing, software, and information systems.

Core Description: The focus of the course is to address fundamentals, principles, and application to business of a new – a by now well recognized and reasonably adapted – paradigm in computing called Cloud Computing. The course will crystallize the meaning, evolution, adoption of Cloud Computing – and connect the dots with other deployment locales and delivery styles of computing, as a service. The course will examine business drivers, financial impact, and architecture models. The course will study the cloud ecosystem, constituent roles, and examine published cases. This is not a course about how or the implementation of cloud. The course provides an understanding of the direction and needs of information technology organizations in serving businesses, customers, and society. The course will be delivered in lecture style and interactive case discussion. Most of the first-half of the course is lecture-based and some lecture-aided case-study based format to lay foundational thinking. Most of the second-half of the course is purely case-study based in Socratic Method of interaction to stimulate critical thinking and illuminate ideas. Written report around case may also be assigned. Cases are usually sourced from HBS, Stanford, and similar academic / professional sources. This course will also provide the opportunity to students to re-assess and re-equip essential skills-set and mind-set in light of the redefined and modern role and ways of information technology in business and in light of the above changes in the industry and market.

Student Learning Objectives/Outcomes

At the end of this course, students are expected to gain the following learning:

1. Understand the foundations, evolution, and concepts of cloud computing
 2. Interpret and advocate the meaning and importance of technology alignment in general – and cloud computing in particular – with business
 3. Identify and describe the various models in cloud computing, their distinctions and relationship.
 4. Understand, discuss, and translate key set of cross-cutting considerations to IT and business as a result of cloud computing
 5. Articulate the technology and financial impact to business in adopting cloud computing
 6. Model business and technology relationships through layers of abstraction
 7. Familiarity with key technologies and standards in cloud computing arena
 8. Become tuned with current business needs, challenges and opportunities and the role of the IT function and capability in it.
 9. Describe the motivation, current state, and future trends in cloud computing
 10. Apply and practice the learning through project and / or case study formats.
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Textbooks & Cases

For Cloud Computing:

Any prescribed and required text will be confirmed from a subset of books listed below. The following books are recommended for reference. Additional books, articles, and links will be advised as appropriate during class.

1. *Cases from Harvard Business Press* – A list of cases will be finalized. Students will be responsible to procure these cases (www.hbr.org). **This material will be required.**
2. *The End of Software – Transforming your business for the On Demand Future*; Timothy Chou; ISBN 0-672-32698-1; Publisher: SAMS (UTD: QA76.754 .C46 2005)

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3. *Cloud Computing – Principles, Systems, and Applications*; Nick Antonopoulos, Lee Gillam; ISBN 978-1-84996-240-7; Publisher: Springer. (UTD Library: TK5105.88813 .C56 2010 (eBook))
4. *Cloud Computing Explained* – John Rhoton; ISBN 978-0-95633556-0-7; Publisher: Recursive Press
5. *The Big Switch Rewiring the World, from Edison to Google*; Nicholas Carr, ISBN: 978-0393062281; Publisher: W.W. Norton & Company.
6. *The Economics of Cloud Computing – Cloud Computing for Decision Makers*; Bill Williams; ISBN 9781587143069; Publisher Prentice Hall.
7. *Cloud Computing Architected* – John Rhoton and Risto Haukioja; ISBN 978-0-95633556-0-4; Publisher: Recursive Press
8. *Building Applications in the Cloud – Concepts, Patterns, and Projects*, Christopher M. Moyer; ISBN 978-0-321-72020-7; Publisher: Addison-Wesley. (UTD Library: QA76.585 .M69 2011 (eBook))
9. *The Firm, The Market, and the Law* – Ronald H Coase; ISBN: 9780226111018 Publisher: University of Chicago
10. *Autonomic Computing* – Richard Murch; ISBN 0-13-144025-X; Publisher: IBM Press
11. *Cloud Computing and SOA Convergence in Your Enterprise – A Step-by-Step Guide*; David Linthicum; ISBN 978-0-13-600922-1; Publisher: Addison-Wesley (UTD Library: TK5105.88813 .L56 2010 (eBook))
12. *Grid Computing* – Joshy Joseph, Craig Fellenstein; ISBN 0-13-145660-1; Publisher: IBM Press
13. *Services Computing*, Liang-Jie Zhang, Jia Zhang, and Hong Cai; ISBN: 978-3-540-38281-2; Publisher: Springer.
14. *Dot.Cloud – The 21st Century Business Platform*; Peter Fingar; ISBN 978-0-929652-49-8; Publisher: Meghan-Kiffer Press

Upcoming Publications:

The following are upcoming publications being tracked in the industry for this course:

1. *Cloud Computing and Service Science* – Ivan Iyanov, Marten Van Sinderen, Boris Shishkov; ISBN: 9781461423256; Publisher: Springer Verlag.
2. *Cloud Computing* – San Murugesan; ISBN 9781439819982; Publisher: To be announced

Reading For Background Advantage:

These are books on background topics – distributed systems, virtualization, and service oriented computing – which will give an advantage in the Cloud Computing courses for those who read them.

1. *SOA for Profit – Manager Guide to Success with Service Oriented Architecture* ISBN: 978-90-75414-14-1 / Publisher: Sogeti – copy strongly recommended, we will borrow and refer to various chapters and diagrams. Free PDF download:

http://www.sogeti.com/upload/Curious%20about%20us/Documents/SOA_for_Profit_Eng.pdf

2. *Documenting Software Architectures – Views and Beyond*, Clements, Bachmann, Bass, Garlan, et al; ISBN: 0-201-70372-6, Publisher: Pearson Education
3. *Succeeding with SOA – Realizing Business Value Through Total Architecture*
ISBN: 978-0-321-50891-1 / Publisher: Addison Wesley

Course Material

Students will be expected to purchase certain case material covered in this course. These are usually available at the price of about \$5-7 each from Harvard Business Publishing site online.

No text book is required for purchase. Certain books are listed above as reference.

Assignments & Academic Calendar

(Topics, Reading Assignments, Case Studies, Term Project, Due Dates, Exam Dates)

Week	Date	Module #	Topics
1	Aug 27	Course Intro	Introduction & Orientation
		Module #1	“The Firm, The Market...” – and The Technology
		Module #2	Introduction and Evolution of Cloud Computing
		4 Case Studies	ONE Written Case (Case #1 – Zuora) - Only case will require a written report. Independent report from each student, submitted at end of semester. - Case not in scope for class lecture / discussion, not in scope for quizzes/tests. Guidelines to prepare report provided later. Action now: Buy, download, start reading: Stanford GSB / Harvard Business Publishing – Case #SM182 https://hbr.org/product/zuora-inc-venturing-into-cloud-computing/an/SM182-PDF-ENG (Possible Old Link?) http://hbr.org/product/zuora-inc-venturing-into-cloud-computing/an/SM182-PDF-ENG?Ntt=SM182
		Intro Only Here & Links to Buy 3 Cases Now	ONE Lecture Case (Case #2 – Cisco) - Case will be lectured based. Action now: Nothing to buy (Module/Slides provide later)
		(discussion of these cases is later in the syllabus calendar)	TWO Discussion Cases (Case #3 – XenSource, Case #4 – Netflix) - Students will come pre-read and pre-researched on three cases. Class discussion will be Socratic Method, requiring everyone to participate (not lecture style). Action now: Buy, download, start reading Case #3 – XenSource: [only buy “XenSource, not XenSource (C)"] Stanford GSB / hbr.org – Case #E267 https://hbr.org/product/xensource/E267-PDF-ENG (Possible Old Link?) http://hbr.org/product/xensource/an/E267-PDF-ENG?N=4294958507&Ntt=xensource Case #4 – Netflix: Kellog SOM / hbr.org – Case #KEL473 https://hbr.org/product/netflix-leading-with-data-the-emergence-of-data-driven-video/KEL473-PDF-ENG (Possible Old Link?) http://hbr.org/product/netflix-leading-with-data-the-emergence-of-data-dr/an/KEL473-PDF-ENG?N=4294958507&Ntt=netflix
2	Sep 03	No Class Meeting	Time for Pre-study of Modules and Research on Cases
3	Sep 10 (Classes will run till 12 Noon)	Module #3	Models in Cloud Computing & Implications to Business
		Module #4	Service Oriented Computing: The New IT Mindset in Business

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4	Sep 17 (Classes will run till 12 Noon)	Module #5	Cloud Computing & The Layered Architecture Pattern
		Module #6 Case #2	Moving to the cloud: Case Study – Cisco’s Roadmap to Cloud (with NetApp, VMware) ONE Lecture Case (Case #2 – Cisco) • Case will be lectured based. • Nothing to buy (Module/Slides provided)
5	Sep 24	TBD	TBD
6	Oct 01	TEST #1	Mid-Term Test (multiple choice only) Scope: Modules covered so far, includes all lectures, class discussions, white boards
7	Oct 08	Module #7	An overview of Cloud Interoperability and Standards
8	Oct 15	Module #8	Security, Compliance & Regulations in Cloud Computing
		Case #1 (Guidance Elaborated) Written Term Project	Case Study: Zuora – Elaboration and structure to prepare written report.
9	Oct 22	Buffer	TBD
10	Oct 29	Case #3	Case Study: XenSource (see link above to buy). Discussion, Case #3 – XenSource • Students will come pre-read and pre-researched on three cases. • Class discussion will be Socratic Method, requiring everyone to participate (not lecture style). • Link to buy: Only buy “XenSource, not XenSource (C). Stanford GSB / hbr.org – Case #E267 http://hbr.org/product/xensource/an/E267-PDF-ENG?N=4294958507&Ntt=xensource
11	Nov 05	Case #4	Case Study: Netflix (see link above to buy) Discussion, Case #4 – Netflix • Students will come pre-read and pre-researched on three cases. Class discussion will be Socratic Method, requiring everyone to participate (not lecture style). • Link to buy: Kellog SOM / hbr.org – Case #KEL473, http://hbr.org/product/netflix-leading-with-data-the-emergence-of-data-dr/an/KEL473-PDF-ENG?N=4294958507&Ntt=netflix

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		Module #9 (Companion slides to Netflix Case)	Companion Lecture to Netflix Case: Cloud principles, architecture lesson, and business impact from Netflix on Amazon Cloud
12	Nov 12	Buffer	TBD
13	Nov 19	No Class Meeting	Time for: Written project report and prep for final exams
		Semester Written Project Report Due	Zuora case written report due to TA (submit ONE hardcopy; submit an electronic copy in eLearning)
14	Nov 26	Holiday	Thanksgiving
15	Dec 03	TBA – Final	Final – Date TBD, Comprehensive (except Zuora case), and Multiple choice.
16	Dec 10	TBA – Final	Final – Date TBD, Comprehensive (except Zuora case), and Multiple choice.

Notes: Calendar above is subject to change. All planned changes will be communicated and posted. As a norm, class will meet in the designated classroom on campus. On exceptions, where certain industry events require the faculty member to be out of town, the class will “meet” over audio/web conferencing or time provided for self-study and assignments. These will be pre-announced. Regular attendance and participation is required during in-classroom sessions.

Grading Policy (weight distribution subject to change)

Any changes to weight distribution will be published and posted.

30% -- 1 Final exam

25% -- 1 Mid-term exam

20% -- 1 Project Report / Written Case Report

15% -- 3 Un-announced Quizzes (best 2 will count) – bring Scantron & Laptops to ***ALL*** classes

10% -- Attendance & Active Participation

>= 90%: A

>= 85%: A-

>= 80%: B+

>= 75%: B

>= 70%: B-

>= 65%: C+

>= 60%: C

< 60%: F

Course & Instructor Policies

Make-up: There will be no make up exams or make up for other graded events.

Extra-Credit: None

Late Work: 5% penalty

Special Assignments: One project / case will be assigned. See assignment and grading policy for more. Topics and descriptions will be provided in class.

Class Attendance: UTD rules and policies on attendance will apply.

Classroom Citizenship: Encourage and motivate a learning environment for yourself and for others. Be active and engage in discussion. Cite example from real experiences. Visualize and discuss how you would apply to real situations in environments you are familiar with or work at.

Technical Support

If you experience any problems with your UTD account you may send an email to:
assist@utdallas.edu or call the UTD Computer Helpdesk at 972-883-2911.

Field Trip Policies

Off-campus Instruction and Course Activities

None planned

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD printed publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Series 50000, Board of Regents, The University of Texas System*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391) and online at <http://www.utdallas.edu/judicialaffairs/UTDJudicialAffairs-HOPV.html>

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic Dishonesty, any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Copyright Notice

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials, including music and software. Copying, displaying, reproducing, or distributing copyrighted works may infringe the copyright owner's rights and such infringement is subject to appropriate disciplinary action as well as criminal penalties provided by federal law. Usage of such material is only appropriate when that usage constitutes "fair use" under the Copyright Act. As a UT Dallas student, you are required to follow the institution's copyright policy (Policy Memorandum 84-I.3-46). For more information about the fair use exemption, see <http://www.utsystem.edu/ogc/intellectualproperty/copypol2.htm>

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the

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Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:

The University of Texas at Dallas, SU 22

PO Box 830688

Richardson, Texas 75083-0688

(972) 883-2098 (voice or TTY)

disabilityservice@utdallas.edu

If you anticipate issues related to the format or requirements of this course, please meet with the Coordinator of Disability Services. The Coordinator is available to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Services to notify them of your eligibility for reasonable accommodations. Disability Services can then plan how best to coordinate your accommodations.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holidays

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the Professor.