THE CHANG SCHOOL

RYERSON UNIVERSITY
CONTINUING EDUCATION

SAMPLE COURSE OUTLINE
CKCS 901
INTRODUCTION TO CLOUD COMPUTING

This is a sample course outline only. It should not be used to plan assignments or purchase textbooks. A current version of the course outline will be provided by the instructor once the course begins.

Every effort will be made to manage the course as stated. However, adjustments may be necessary at the discretion of the instructor. If so, students will be advised and alterations discussed in the class prior to implementation.

It is the responsibility of students to ensure that they understand the University's policies and procedures, in particular those relating to course management and academic integrity

COURSE DESCRIPTION

Cloud Computing has emerged in recent years as a new paradigm for hosting and delivering services over the Internet. This course is designed to introduce the concepts of Cloud Computing as a new computing paradigm. The students will have an opportunity to explore the Cloud Computing various terminology, principles and applications. The course will expose students to different views of understanding the Cloud Computing such as theoretical, technical and commercial aspects. A variety of real case studies and existing in market cloud- based tools will be identified and studied in order to provide students with a close overview to Cloud Computing applications.

COURSE OBJECTIVE/LEARNING OUTCOMES

The main objective of this course is:

- To provide students with the fundamentals and essentials of Cloud Computing.
- To provide students a sound foundation of the Cloud Computing so that they are able to start using and adopting Cloud Computing services and tools in their real life scenarios.
- To enable students exploring some important cloud computing driven commercial systems such as GoogleApps, Microsoft Azure and Amazon Web Services and other businesses cloud applications.

TEXTBOOK AND READING LISTS

This is a sample course outline only. It should not be used to purchase textbooks. A current version of the course outline will be provided by the instructor once the course begins.

Text:

1. L. Wang, R. Ranjan, J. Chen, and B. Benatallah, *Cloud Computing: Methodology, Systems, and Applications*, CRC Press, Boca Raton, FL,USA, ISBN: 9781439856413, October 2011.

2. Buyya R., Broberg J., Goscinski A., *Cloud Computing: Principles and Paradigms*, John Wiley & Sons Inc., ISBN: 978-0-470-88799-8, 2011.

Readings and Related Material (more articles could be added):

1. Armbrust M., Fox A., Griffith R., *et al*, "Above the Clouds: A Berkeley View of Cloud Computing", Technical Report No. UCB/EECS-2009-28, http://www.eecs.berkeley.edu/Pubs/TechRpts/2009/EECS-2009-28.html.
2. Garg S.K., Versteeg S., Buyya R., "SMICloud: Aframework for Computing and Ranking Cloud Services", In Proceeding of the Fourth IEEE International Conference on Utility and Cloud Computing, pp. 210-218, 2011.
3. Garg S.K., Vecchiola C., and Buyya R., "Mandi: a market exchange for trading utility and cloud computing services". Journal of Supercomputing (JOC), 2011.

COURSE TOPICS and SCHEDULE

The course consists of a main component that is theory based teaching points and practical examples of cloud computing services. The weekly schedules are as follows:

Week	Topics
Week1	Introduction to the course: defining the Cloud Computing, the roots of Cloud Computing.
Week2	Cloud Computing Deployment models, Cloud service models (IaaS, PaaS, SaaS).
Week3	Characteristics of Cloud Computing/ advantages and disadvantages of adopting Cloud Computing. Cloud Computing Architecture layers, Cloud Computing methodologies.
Week4	Security in Cloud Computing. Cloud-based service selection, SMI (business key attributes).
Week5	Cloud Economics (1): Resource Provisioning in Cloud Computing and cost optimization. Cloud Economics (2): Multitenancy in Cloud Computing, Monitoring in Cloud Computing.
Week6	Examples of Cloud Computing applications: Google, Azure platform, Amazon Web Services. Other examples in the Internet such as Force.com, SoundCloud, HyperOffice, MyMusicCloud.
Week 6	Review

MISSED TERM WORK OR EXAMINATIONS

Students are expected to complete all assignments, tests, and exams within the time frames and by the dates indicated in this outline. Exemption or deferral of an assignment, term test, or final examination is only permitted for a medical or personal emergency or due to religious observance. The instructor must be notified by e-mail **prior to** the due date or test/exam date, and the appropriate documentation must be submitted. For absence on medical grounds, an official student medical certificate, downloaded from the Ryerson website at http://www.ryerson.ca/senate/forms/medical.pdf or picked up from The Chang School at Heaslip House, 297 Victoria St., Main Floor, must be provided. For absence due to religious observance, visit http://www.ryerson.ca/senate/forms/relobservforminstr.pdf to obtain and submit the required form.

PLAGIARISM

The Ryerson Student Code of Academic Conduct defines plagiarism and the sanctions against students who plagiarize. All Chang School students are strongly encouraged to go to the academic integrity website at www.ryerson.ca/academicintegrity and complete the tutorial on plagiarism.

ACADEMIC INTEGRITY

Ryerson University and The Chang School are committed to the principles of academic integrity as outlined in the Student code of Academic conduct. Students are strongly encouraged to review the student guide to academic integrity, including penalties for misconduct, on the academic integrity website at www.ryerson.ca/academic integrity and the Student code of Academic conduct at www.ryerson.ca/senate/policies.

RYERSON STUDENT EMAIL

All students in full and part-time graduate and undergraduate degree programs and all continuing education students are required to activate and maintain their Ryerson online identity at www.ryerson.ca/accounts in order to regularly access Ryerson's E-mail (Rmail), RAMSS, my.ryerson.ca portal and learning system, and other systems by which they will receive official University communications.

COURSE REPEATS:

Senate GPA policy prevents students from taking a course more than three times. For complete GPA policy see policy no. 46 at www.ryerson.ca/senate/policies.

RYERSON ACADEMIC POLICIES

For more information on Ryerson's academic policies, visit the Senate website at www.ryerson.ca/senate.

Course Management Policy No. 145
Student Code of Academic conduct No. 60
Student code of non-Academic Conduct No. 61
Examination Policy No. 135
Policy on Grading, Promotion, and Academic Standing Policy No. 46
Undergraduate Academic consideration and Appeals Policy No. 134
Accommodation of Student Religious Observance Obligations Policy no. 150