TED ROGERS SCHOOL
Information Technology Management

Ryerson University
The Chang School of Continuing Education

RYERSON UNIVERSITY

Ted Rogers School of Information Technology Management and G. Raymond Chang School of Continuing Education

COURSE OF STUDY
2017-2018

(C)ITM 595 – Auditing of Information Systems

1.0 PREREQUISITE

The prerequisite for this course is (ACC 521 or AFA 518) and (ITM 696 or ITM 305) or Direct Entry. Students who do not have the prerequisites will be dropped from the course.

2.0 INSTRUCTOR INFORMATION

- Name:
- Office Phone Number:
- E-mail address:
- Faculty/course web site(s): https://my.ryerson.ca
- Office Location & Consultation hours:
    - Your instructor is available for personal consultation during scheduled consultation hours which are posted on their office door or on the course shell in D2L Brightspace. However, you are advised to make an appointment by e-mail or by telephone before coming to ensure that the professor is not unavoidably absent.
- E-mail Usage & Limits:

Students are expected to monitor and retrieve messages and information issued to them by the University via Ryerson online systems on a frequent and consistent basis. ***Ryerson requires that any official or formal electronic communications from students be sent from their official Ryerson E-mail account.*** As such emails from other addresses may not be responded to.

3.0 CALENDAR COURSE DESCRIPTION

This course is designed to enhance the student's understanding of audit risks and control risks relevant to audits in computerized environments. The course addresses the implementation and evaluation of security and controls in these environments; the techniques necessary to perform external EDP audits; auditing using CAATs; basic considerations in auditing EDI systems; and, audit and control issues associated with eCommerce, networks, VPNs and continuous auditing. The course will focus on auditing of Information Systems, which produce internal and external reports. Students will be

introduced to audit approaches, computer risks, concerns related to internal controls and techniques for evaluating systems and business processes. Students will also be able to assess the integrity of data used in various management reports.

4.0 COURSE OVERVIEW

Recent developments in Information Systems and Technology have had a tremendous impact on the field of Auditing. In order to increase the efficiency of operations and effectiveness of communication with customers and suppliers several traditional business processes have been reengineered, which in turn introduced new risks. Set of unique internal controls and consequently new techniques for evaluation them and assuring the security and accuracy of corporate data is required.

This course will focus on auditing of Information Systems, which produce internal and external reports. Students will be introduced to audit approaches, computer risks, concerns related to internal controls and techniques for evaluating systems and business processes.

The combination of theory and applied learning through intensive use of cases helps students understand both basic concepts of the general auditing conducted in the computer based environment and relationship between external auditing and Information Technology audits. Students will also be able to assess the integrity of data used in various management reports.

5.0 COURSE OBJECTIVES

The main objective of the course is to provide students with the understanding of auditor's computer auditing and assurance responsibilities. Upon completion of the course, students will be able to:

1. Determine risks and exposures introduced by computer based information systems
2. List t types of controls that may be used to reduce such risks to an acceptable level and design controls for a particular business situation
3. Evaluate different controls (preventive, detective and corrective) in a computerized environment
4. Make Audit decisions in a computer based information systems
5. Assess the impact of risks and controls on audit strategy
6. Learn to us e and apply on a n audit project using Computer Assisted Auditing Tool (CAAT)
7. Develop IT Audit plans
8. Investigate the company and determine audit risks; evaluate controls and determine impact of IT related exposures on the integrity of financial and managerial data.
9. Depict the similarities/differences of manual, various batch processing and real time data processing environments in a computerized information system.
10. Prepare written reports that summarize all findings, conclusions, recommendations and present the key suggestions to the class.

There is heavy emphasis in the course on class participation and team work.

6.0 EVALUATION

The grade for this course is composed of the mark received for each of the following components:

Evaluation Component	Percentage of the Final Grade
Midterm Exam	30%
Group Project 1 - Audit plan	10%
Group project 2 - ACL	15%
Final Exam	45%
Total	**100%**

NOTE: Students must achieve a course grade of at least 50% to pass this course.

Citation Format for Essays and Term Papers
All essay assignments, term paper and other written works must adhere with APA citation format. Technical errors (spelling, punctuation, proofing, grammar, format, and citations) and/or inappropriate levels of language or composition will result in marks being deducted. You are encouraged to obtain assistance from the Writing Centre (www.ryerson.ca/writingcentre) for help with your written communications as needed.

You can find APA guidelines and academic referencing from the following online resources:

a) Ryerson Writing Support Web site:
http://www.ryerson.ca/content/dam/studentlearningsupport/resources/citation-conventions/APA%20Basic%20Style%20Guide.pdf

b) Ryerson Library for APA style guide: https://library.ryerson.ca/guides/style/

7.0 POSTING OF GRADES

- All grades, on assignments or tests must be posted or made available to students through the return of their work. Grades on final exams must be posted. However, as there may be other consideration in the determination of final grades, students will receive their official final grade in the course only from the Registrar. Final official course grades may not be posted or disclosed anywhere by an instructor.
- Posting of grades on the Course Management System (D2L Brightspace) is preferred. If grades are posted in hard copy they must be posted numerically sorted by student identification number after at least the **first four digits** have been removed. Instructors must inform students in all course management documentation of the method to be used in the posting of grades. Students who wish not to have their grades posted must inform the instructor in writing.
- Some graded work will be returned to students prior to the last date to drop a course without academic penalty.

8.0 TOPICS – SEQUENCE & SCHEDULE

Session	Topic	Readings	Activities & Due Dates
1	Course Introduction • Course of Study • ISACA Standards, Guidelines, and Procedures • Overview of IT Audit and Conducting an IT Audit • Internal Control Objectives, Principles and Models	Chapter 1 ISACA Guidelines pages 4-14 (posted to BB)	**Create teams**
2	Auditing IT Governance Controls • IT Governance • IT Function and Structure • The Computer Center • Disaster Recovery Planning • Outsourcing • **Overview of Project 1**	Chapter 2	**Create Teams** **Finalize team selection**
3	Security Part 1: Auditing Operating Systems and Networks • Auditing Operating Systems • Auditing Networks • Auditing EDI • Auditing PC-based • Accounting Systems	Chapter 3	
4	Security Part 2: Auditing Data Base Systems • Data Management Approaches • Key Elements of the Database Environment • Databases in a Distributed Environment • Controlling and Auditing Data Management Systems	Chapter 4	
5	Systems Development and Program Change Activities • Participants in Systems Development • Information Systems Acquisition • The Systems Development Life Cycle • Controlling and Auditing the SDLC	Chapter 5	**Project 1 Due**
6	Overview of ACL Software – needed for Project 2 (after midterm exam is concluded) Computer-Assisted Audit Tools and Techniques • Applications Controls • Testing Computer Application Controls Computer-Aided Audit Tools and Techniques for Testing Controls	Chapter 7	**Mid Term Examination**

7	**Overview of Project 2** Data Structures and CAATTs for Data Extraction • Data Structures • Designing Relational Databases • Embedded Audit Module • Generalized Audit Software • ACL Software (2)	Chapter8 Additional information may be posted to course website	
8	Transaction Processing and Financial Reporting Systems Overview • Overview of Transaction Processing • Documentation Techniques • Computer-based Accounting Systems • Data Coding Schemes • The General Ledger System • The Financial Reporting System • XBRL • Controlling the FRS	Chapter 8 Additional information may be posted to course website	
9	Auditing the Revenue Cycle and the Expenditure Cycle (emphasizing the technologies and risks) • Revenue Cycle Activities and Technologies • Revenue Cycle Audit Objectives, Controls, and Tests of Controls • Substantive Tests of Revenue Cycle Accounts • Expenditure Cycle Activities and Technologies • Expenditure Cycle Audit Objectives, Controls, and Tests of Controls • Substantive Tests of Expenditure Cycle Accounts	Chapter 9; Chapter 10 Additional information may be posted to course website	
10	Enterprise Resource Planning Systems • ERP configurations • Data Warehousing • Associated Risks • Implications for Internal Control and Auditing • Cloud Computing	Chapter 11 Additional information may be posted to course website	**Project 2 due**
11	Business Ethics, Fraud and Fraud Detection • ISACA Code of Ethics • Ethical Issues • Sarbanes-Oxley • EU Directive/ Safe Harbor • PIPEDA • PHIPPA • Fraud and Accountants • Auditor's Responsibility for Detecting Fraud	Chapter 12 Additional information may be posted to course website	

	• Fraud Detection Techniques		
12	**Course Review**		

9.0 TEACHING METHODS

Lectures, readings, case study analysis and discussions are the primary teaching methods in this course. You are expected to have studies the assigned readings and completed pre-class case study analysis prior to attending the lectures. Lectures will review and expand the textual material and provide students with the professor's commentary, examples and illustrations. Case studies will be used to illustrate how concepts and tools introduced in class can be applied in real organizations. Each student is expected to contribute to the active learning of the class through in-class discussions and will be graded accordingly.

10.0 TEXTS & OTHER READING MATERIALS

Title: Information Technology Auditing (with ACL CD-ROM), 4th Edition
Author: James A. Hall
Publisher: South-Western College
ISBN: 978-1133949886

Additional course reading materials or instructions or for obtaining this material will be posted on the course website.

11.0 VARIATIONS WITHIN A COURSE

All sections of a course (Day and CE sections) will follow the same course outline and will use the same course delivery methods, methods of evaluation, and grading schemes. Any deviations will be posted on D2L Brightspace once approved by the course coordinator.

12.0 OTHER COURSE, DEPARTMENTAL, AND UNIVERSITY POLICIES

- For more information regarding course management and departmental policies, please consult the **'Appendix of the Course of Study'** which is posted on the Ted Rogers School of Information Technology Management website, http://www.ryerson.ca/content/dam/itm/documents/cos/Appendix.pdf. This appendix covers the following topics:
  - **12..1** Attendance & Class Participation
  - **12..2** Email Usage
  - **12..3** Request for Academic Consideration
    - **12..3.1** Ryerson Health Certificate
    - **12..3.2** Academic Accommodation for Students with Disabilities
    - **12..3.3** Religious, Aboriginal or Spiritual Observance
    - **12..3.4** Re-grading and Recalculation
  - **12..4** Examinations & Tests
    - **12..4.1** Period of Prohibition from Testing
    - **12..4.2** Make-Up of Mid-Term Tests, Assignments and Other Assessments During the Semester
    - **12..4.3** Make –Up of Final Exams
    - **12..4.4** Missing a Make-Up

12..5 Late Assignments
12..6 Standard of Written Work
12..7 Academic Grading Policy
12..8 Academic Integrity
12..8.1 Turnitin.com
12..9 Student Rights