ITEC 3500 A – Information Technology Risk Management  
Fall 2014

Class Information:  T: 4:00-7:00 pm, Calumet College 108

Professor:  Younes Benslimane, Ph.D. 
Office: TEL 3061 
Office Hours:  T: 2:30-3:30 and R: 6:15-6:45 or by appointment 
Office Phone:  (416) 736-2100 extension 20388
Please no email

Teaching Assistant:  None

When needed, additional mandatory readings will be announced one week prior on the course website


Course website:  http://www.yorku.ca/younes (Should be visited daily!)

Course Logistics 

Important Dates:

- Oct.14: Midterm
- Nov.7: Last day to drop the course without receiving a grade
- Nov.25: Last day of class for ITEC 3500-A
Course Description

This course covers key information technology (IT) risk components and ways to mitigate those risks. Areas of instruction include how to manage IT-related risks addressed by CobiT, ITIL and ISO 17799 standards. This course is primarily addressed to BAS/ITEC students enrolled in the IT Auditing and Assurance stream. This course is also open to other (ITEC) students interested in the topics of IT security and audit.

Students learn about what can go wrong with computer-based systems and about controls designed to prevent, detect and correct such exposures. They also learn about the role of the audit and security functions in implementing those controls and assessing their effectiveness, and about the tasks performed by IT auditors and the knowledge required to plan, manage and perform IT audits.

Topics covered in this course include the IT audit process, IT governance, systems and infrastructure life cycle management, IT delivery and support, protection of information assets, business continuity and disaster recovery.

Course Objectives

After completing this course, students should be able to:
- Define key terminology presented in class;
- Evaluate risks organizations face due to their reliance on IT;
- Implement proven risk management practices (to mitigate such IT-related risks);
- Have a working understanding of the knowledge required for an entry position in IT auditing and assurance and in IT security.

Course Approach

This course is designed to capture everyone's interests. The lectures provide a base of knowledge. All class meetings include application exercises used to reinforce the comprehension of the concepts presented during the lecture and/or to apply that knowledge to review and audit computerized systems and discuss and assess relevant controls. Students are expected to attend all lectures and to participate in class discussions. Some lecture notes will be posted; other materials will be available in class only.
Two OPTIONAL assignments (due dates TBA): 10%
- Assignment 1: (5%)
- Assignment 2: (5%)

Midterm Exam 40% (45% if Assignment 1 is not submitted)
Final Exam 50% (55% if Assignment 2 is not submitted)

The evaluation is based on the letter-grade system below:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>90 - 100</td>
<td>A+  Exceptional</td>
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<tr>
<td>80 - 89</td>
<td>A  Excellent</td>
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<tr>
<td>75 - 79</td>
<td>B+  Very Good</td>
</tr>
<tr>
<td>70 - 74</td>
<td>B   Good</td>
</tr>
<tr>
<td>65 - 69</td>
<td>C+  Competent</td>
</tr>
<tr>
<td>60 - 64</td>
<td>C    Fairly Competent</td>
</tr>
<tr>
<td>55 - 59</td>
<td>D+   Passing</td>
</tr>
<tr>
<td>50 - 54</td>
<td>D     Marginally passing</td>
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<tr>
<td>&lt; 40</td>
<td>F      Failing</td>
</tr>
</tbody>
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**Academic honesty.** Students must adhere to York University policy on academic honesty. It is your responsibility to read and understand the York University policy on academic honesty.

**Timeliness.** Late work is not accepted. No make-up exam is provided. If you miss the midterm, you may have its weight transferred to that of the cumulative final exam. To request such, you must meet with me and bring acceptable documentation. Please see below policy regarding medical certificates. If you can’t write the final exam scheduled by the Registrar Office, you must write the deferred exam scheduled by the SIT. No other final exam is provided. To write the deferred exam, you must bring acceptable documentation.

**Medical certificates.** Petitions submitted on medical grounds must include a physician's note.

**Content covered during exams.** Students are responsible for content covered by lectures and by assignments. Details regarding the exams (duration and format) will be provided in class.

**Accommodations for students with special needs.** I will make reasonable accommodations for persons with documented disabilities. Students must let me know ASAP.

**Courtesy in classroom.** Please, try to arrive on time and stay for the entire period. Cell phones should be turned off (or on vibrating mode) in the classroom (and in my office as well!).
Week 1: Course introduction and overview
Learning objectives:
- CISA job practice areas
- Foundations of IT auditing and internal controls
- IT auditor: role, skills and related certifications
- Introduction to IT security and IT risk management
- Practice questions
Readings: slides

Week 2: IS auditing process
Learning objectives:
- IS auditing: Issues, challenges, standards and guidelines
- Risk analysis and internal controls
- The audit process
- Emerging changes in the IS audit process
- Practice questions
Readings: Chapter 1 and slides

Week 3: IT governance
Learning objectives:
- Best practices for senior management
- Role of IS strategy, policies, planning and procedures
- Risk identification and management
- IS management practices and control
- IS organizational structure and responsibilities
- Practice questions
Readings: Chapter 2 and slides

Week 4: Lifecycle management
Learning objectives:
- Project management: Roles, responsibility, structure and practices
- Business application development: Approaches, methods and tools
- Infrastructure development and acquisition practices
- IS maintenance practices
- Practice questions
Readings: Chapter 3 and slides
**Week 5: System infrastructure control**
Learning objectives:
- Programmed and manual application controls
- Auditing application controls
- Auditing systems development, acquisition and maintenance
- Business application systems
- Practice questions
Readings: Chapter 4 and slides

**Week 6: Midterm**

**Week 7: Information Systems Hardware and Architecture**
Learning objectives:
- IS operations
- IS hardware
- IS architecture and software
- Auditing IS infrastructure and operations
- Practice questions
Readings: Chapter 5 and slides

**Week 8: Information Systems used for IT delivery and Support**
Learning objectives:
- Network infrastructure
- Network administration and control
- Risks to network administration and controls
- Practice questions
Readings: Chapter 6 and slides

**Week 9: Protection of Logical Assets**
Learning objectives:
- Goals of logical security
- Logical access controls: Identification and authentication
- Handling confidential information: Common attacks patterns and security measures
- Auditing information security and network infrastructure security
- Practice questions
Readings: Chapter 7 and slides
Week 10: Physical Security
Learning objectives:
- Physical security: Exposures and controls
- Environmental protection practices
- Physical asset and information control
- Policies and procedures
- Practice questions
Readings: Chapter 8 and slides

Week 11: Business Continuity and Disaster Recovery
Learning objectives:
- Disaster recovery
- Recovery alternatives: Alternate sites; hardware, software, data and telecommunication recovery; backup and restoration
- Verification of disaster recovery and business continuity process
- Practice questions
Readings: Chapter 9 and slides

Week 12: Course review / Conducting a Professional IT Audit: Guidance and Frameworks
Learning objectives:
- Auditing in the real world
- Writing audit reports
- Methodologies, Frameworks and Guidance
- Resources available for CISA exam
- Practice questions
Readings: slides

Final Exam: Exam date to be announced by Registrar Office

Welcome to ITEC 3500!