

**DePaul University College of Computing and Digital Media (CDM)**  
**IS 344 ▪ IS 444 IT Auditing: *Course Syllabus – Fall 2014***

Day: **Tuesday** ▪ Time: **5:45 - 9:00 PM** ▪ Room #: **LEWIS 01216 at Loop Campus**

**Instructor:** Jim Enstrom

**E-mail:** [jenstrom@cdm.depaul.edu](mailto:jenstrom@cdm.depaul.edu)

IS 344 Section 901 – Class number: 30421  
IS 344 Section 910 – Class number: 30422 (on-line)  
IS 444 Section 901 – Class number: 30419  
IS 444 Section 910 – Class number: 30420 (on-line)

**Office hours:**  
*By appointment (preferred method) or*  
Tuesdays → 4:30 – 5:45 PM and after class  
Location – LEWIS 01216 at Loop Campus

**Course Description:**

Management and boards continue to recognize the importance of effectively managing information technology (IT) assets — to meet business objectives and to thoughtfully manage IT related business risks. This course examines the key principles related to auditing information technology processes and related controls and is designed to meet the increasing needs of audit, compliance, security and risk management professionals.

**Course Objectives for Undergraduate Students:**

Through the application of [COBIT®](#) and other similar governance frameworks, students will develop a common vocabulary for understanding sources of IT risk and performing an IT audit. Students will further gain hands-on experience in analyzing and assessing IT risks and controls through various case studies, lectures, and discussions. The primary objectives of the course are to:

- Establish an understanding of the IT environment and the role of the IT auditor,
- Recognize how corporate and IT governance practices impact the IT audit process,
- Develop an understanding of the IT audit process i.e., risk assessment, planning, standards, guidelines and best practices, and
- Survey IT audit approaches to:
  - Systems development and maintenance,
  - IT security,
  - IT service delivery and support,
  - Business continuity and disaster recovery, and
  - Data analytics and fraud detection.

**Course Objectives for Graduate Students:**

Through the application of [COBIT®](#) and other similar governance frameworks, students will develop a common vocabulary for understanding sources of IT risk and performing an IT audit. Students will further gain hands-on experience in analyzing and assessing IT risks and controls through various case studies, lectures, and discussions. The primary objectives of the course are to:

- Establish an understanding of the IT environment and analyze why the role of the IT auditor is important in today's business environment,
- Recognize and evaluate how corporate and IT governance practices impact the IT audit process,
- Develop an understanding of the IT audit process (i.e., risk assessment, planning, fieldwork, reporting and communication) and further evaluate how the IT auditor should apply relevant standards, guidelines and best practices, and
- Survey IT audit approaches to the following IT domains, and synthesize key risks:
  - Systems development and maintenance,
  - IT security,
  - IT service delivery and support,
  - business continuity and disaster recovery, and
  - data analytics and fraud detection.

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### Course Resources:

- IT Auditing Using Controls to Protect Information Assets, 2nd edition, Davis, Schiller & Wheeler, McGraw-Hill/Osborne Media, 2011 [ISBN: ISBN: 978-0071742382]
- IT Standards, Guidelines, and Tools and Techniques for Audit and Assurance and Control Professionals, 2010 ISACA® All rights reserved, <http://www.isaca.org/Knowledge-Center/Standards/Documents/IT-Audit-Assurance-Guidance-1March2010.pdf>

\*\*\*Additional course resources may be introduced throughout the semester\*\*\*

### Academic Integrity:

This course will be subject to the Academic Integrity Policy passed by Faculty Council. Work done for this course must adhere to the DePaul University Academic Integrity Policy, which you can review in the Student Handbook or by visiting Academic Integrity at DePaul University (<http://academicintegrity.depaul.edu>).

### Communications:

Class lecture, D2L and email will be the primary means of communication. Students are obligated to actively monitor classroom communications and convey any questions in a timely manner.

### Grading Breakdown:

Grade Item	Percentage	Point Allocation
Homework Assignments (100 points each x 3)	60%	300 points
Final Exam <i>(details to be announced)</i>	30%	150 points
Participation – in class or via on-line communication <i>(details to be announced)</i>	10%	50 points
<b>Total</b>	<b>100%</b>	<b>500 points</b>

### Grading Scale:

Grade	Percentage	Grade	Percentage	Grade	Percentage
A	93% – 100%	B–	80% – 82%	D+	67% – 69%
A–	90% – 92%	C+	77% – 79%	D	60% – 66%
B+	87% – 89%	C	73% – 76%	F	Less than 60%
B	83% – 86%	C–	70% – 72%		

### Participation:

Students must actively participate either in class or via on-line communication for on-line students. More information on this topic will be provided on the first day of class.

### Homework, Quizzes or Exams:

Subject to pre-approval, only students granted an *official excused absence* will be allowed to make up a missed homework, quiz or examination. Any uncoordinated, unexcused missed exam, quiz or homework assignment will result in a score of a -0-.

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**Tentative Course Calendar (subject to change):**

Week	Topics	Resource(s) <sup>1</sup>	Due Dates
1 – Sept 16	IT environment and the role of the IT auditor <ul style="list-style-type: none"> <li>• Why are we here</li> <li>• Corporate governance</li> <li>• Board, audit committee, management and other stakeholder expectations</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">IT Auditing Using Controls to Protect Information Assets</a>, Chapter 1 “<i>Building an Effective Internal IT Audit Function</i>”</li> <li>• Article: “<a href="#">Corporate Governance According to Charles T. Munger</a>” by David F. Larcker and Brian Tayan, <i>Stanford Closer Look Series</i>, March 3, 2014</li> </ul>	None
2 – Sept 23	Understanding business risk  IT governance – the starting point  Legal and regulatory mandates (SOX, Privacy, PCI, etc.)	<ul style="list-style-type: none"> <li>• <a href="#">IT Auditing Using Controls to Protect Information Assets</a>, Chapter 18 “<i>Risk Management</i>”</li> <li>• <a href="#">IT Auditing Using Controls to Protect Information Assets</a>, Chapter 17 “<i>Regulations</i>”</li> <li>• Article: “<a href="#">Effective IT Governance Through the Three Lines of Defense, Risk IT and COBIT</a>”, by Ronke Oyemade, <i>ISACA Journal</i>, 2012 Volume 1</li> </ul>	None
3 – Sept 30	Audit standards and pronouncements <ul style="list-style-type: none"> <li>• ISACA, IIA, AICPA, etc.</li> </ul> Risk, process and control frameworks ( <i>tools of the trade</i> ) <ul style="list-style-type: none"> <li>• COSO, COBIT, FFIEC, ISO, ITIL</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">IT Auditing Using Controls to Protect Information Assets</a>, Chapter 16 “<i>Frameworks and Standards</i>”</li> <li>• ISACA IT Audit Standards (pgs 9-26)</li> </ul>	<b>Homework #1</b> – must be completed by 5:45 pm US Central on Tues. Sept 30 <sup>th</sup>
4 – Oct 7	IT audit process: <i>Part 1 – Developing the IT audit plan</i> : <ul style="list-style-type: none"> <li>• Risk assessment</li> <li>• Audit universe</li> <li>• Audit planning</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">IT Auditing Using Controls to Protect Information Assets</a>, Chapter 2 “<i>The Audit Process</i>”</li> <li>• ISACA IT Audit Standards (pgs 9-26)</li> </ul>	None
5 – Oct 14	IT audit process: <i>Part 2 – Conducting the IT audit</i> <ul style="list-style-type: none"> <li>• Design risk-based audit procedures</li> <li>• Perform risk-based testing</li> <li>• Communication and reporting</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">IT Auditing Using Controls to Protect Information Assets</a>, Chapter 2 “<i>The Audit Process</i>”</li> <li>• ISACA IT Audit Standards (pgs 9-26)</li> </ul>	None
6 – Oct 21	Auditing systems development and maintenance <ul style="list-style-type: none"> <li>• Risks defined</li> <li>• Software development life cycle process</li> <li>• Change and release management policy</li> <li>• Source code and production control</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">IT Auditing Using Controls to Protect Information Assets</a>, Chapter 13 “<i>Auditing Applications</i>”</li> <li>• <a href="#">IT Auditing Using Controls to Protect Information Assets</a>, Chapter 15 “<i>Auditing Company Projects</i>”</li> </ul>	<b>Homework #2</b> – must be completed by 5:45 pm US Central on Tues. Oct 21 <sup>st</sup>

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Week	Topics	Resource(s) <sup>i</sup>	Due Dates
7 – Oct 28	Auditing IT security <ul style="list-style-type: none"> <li>Risks defined</li> <li>Security policy</li> <li>Security architecture</li> <li>Security processes</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">“Framework for Improving Critical Infrastructure Cybersecurity”</a>, Version 1.0, National Institute of Standards and Technology, February 12, 2014</li> </ul>	None
8 – Nov 4	Auditing IT service delivery and support <ul style="list-style-type: none"> <li>Risks defined</li> <li>IT delivery and support processes</li> </ul> Auditing business continuity and disaster recovery <ul style="list-style-type: none"> <li>Risks defined</li> <li>Policy and impact assessment</li> <li>Plan design and response strategies</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">IT Auditing Using Controls to Protect Information Assets</a>, Chapter 4 “<a href="#">Auditing Data Centers and Disaster Recovery</a>”</li> <li>FFIEC booklet: “<a href="#">Business Continuity Planning</a>” pages 1-28 in the printable version</li> </ul>	None
9 – Nov 11	Data analytics and fraud investigations <ul style="list-style-type: none"> <li>Risks defined</li> <li>Key concepts related to data analytics</li> <li>When a fraud happens – what now?</li> </ul>	<ul style="list-style-type: none"> <li>Article: “<a href="#">What Every IT Auditor Should Know About Data Analytics</a>” by Tommie Singleton, <i>ISACA Journal</i>, 2013 Volume 6</li> <li>Article: “<i>Investigations of Wrongdoing, Starting Off on the Right Foot</i>” – by Travis Waite, <i>Internal Auditor Magazine</i>, October, 2013 (posted in D2L)</li> </ul>	<b>Homework #3</b> – must be completed by 5:45 pm US Central on Tuesday, November 11 <sup>th</sup>
10 – Nov 18	Cloudy days – managing third party risk <ul style="list-style-type: none"> <li>Risks defined</li> <li>What is the cloud?</li> <li>How can companies manage the risk?</li> </ul> Final Exam Review	<ul style="list-style-type: none"> <li><a href="#">IT Auditing Using Controls to Protect Information Assets</a>, Chapter 14 “<a href="#">Auditing Cloud Computing and Outsourced Operations</a>”</li> </ul>	None
11 – Nov 25	<b>Final Examination</b>	Details to be announced in class.	

**Please note:**

<sup>i</sup> Additional course resources may be introduced throughout the semester. Students are obligated to actively monitor classroom communications for any changes to the reading assignments, homework assignments or course calendar.

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### Other Important Course Policies

**Changes to Syllabus** – This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be addressed during class and posted in D2L.

**Online Course Evaluations** – Instructor and course evaluations provide valuable feedback that can improve teaching and learning. As students, you are in the unique position to view the instructor over time. Your comments about what works and what doesn't can help faculty build on the elements of the course that are strong and improve those that are weak. Isolated comments from students and instructors' peers may also be helpful, but evaluation results based on high response rates may be statistically reliable (believable). As you experience this course and material, think about how your learning is impacted. Your honest opinions about your experience in and commitment to the course and your learning may help improve some components of the course for the next group of students. Positive comments also show the department chairs and college deans the commitment of instructors to the university and teaching evaluation results are one component used in annual performance reviews (including salary raises and promotion/tenure). The evaluation of the instructor and course provides you an opportunity to make your voice heard on an important issue – the quality of teaching at DePaul. Don't miss this opportunity to provide feedback!

**Withdrawal** – Students who withdraw from the course do so by using the Campus Connection system (<http://campusconnect.depaul.edu>). Withdrawals processed via this system are effective the day on which they are made. Simply ceasing to attend, or notifying the instructor, or nonpayment of tuition, does not constitute an official withdrawal from class and will result in academic as well as financial penalty.

**Retroactive Withdrawal** – This policy exists to assist students for whom extenuating circumstances prevented them from meeting the withdrawal deadline. During their college career students may be allowed one medical/personal administrative withdrawal and one college office administrative withdrawal, each for one or more courses in a single term. Repeated requests will not be considered. Submitting an appeal for retroactive withdrawal does not guarantee approval. College office appeals for CDM students must be submitted online via MyCDM. The deadlines for submitting appeals are as follows:

- Autumn Quarter: Last day of the last final exam of the subsequent winter quarter
- Winter Quarter: Last day of the last final exam of the subsequent spring quarter
- Spring Quarter: Last day of the last final exam of the subsequent autumn quarter
- Summer Terms: Last day of the last final exam of the subsequent autumn quarter

**Excused Absence** – In order to petition for an excused absence, students who miss class due to illness or significant personal circumstances should complete the Absence Notification process through the Dean of Students office. The form can be accessed at <http://studentaffairs.depaul.edu/dos/forms.html>. Students must submit supporting documentation alongside the form. The professor reserves the sole right whether to offer an excused absence and/or academic accommodations for an excused absence.

**Incomplete** – 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. CDM policy requires the student to initiate the request for incomplete grade before the end of the term in which the course is taken. Prior to submitting the incomplete request, the student must discuss the circumstances with the instructor. Students may initiate the incomplete request process in MyCDM.

- All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptional cases will receive such approval.

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- If approved, students are required to complete all remaining course requirements independently in consultation with the instructor by the deadline indicated on the incomplete request form.
- By default, an incomplete grade will automatically change to a grade of F after two quarters have elapsed (excluding summer) unless another grade is recorded by the instructor.
- An incomplete grade does NOT grant the student permission to attend the same course in a future quarter.

**Students with Disabilities** – Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at:

Student Center, LPC, Suite #370  
Phone number: (773) 325.1677  
Fax: (773) 325.3720  
TTY: (773) 325.7296

**Writing Center** – *Need help with writing?* This course will require the completion of several writing assignments, as part of the homework assignments and final examination. The Writing Center provides help free-of-charge to all members of the DePaul University community. Please click this link for more information: <http://condor.depaul.edu/writing/instructors/syllabus.html>

**Academic Calendar** – Please refer to the following link for important dates including the date by which you can drop this class. <http://www.depaul.edu/university-catalog/academic-handbooks/graduate/university-information/Pages/academic-calendar.aspx>

**Cross-listed Course IS 344 and IS 444** – Learning outcomes for graduate students will include analysis, synthesis and/or evaluation of key concepts discussed throughout the semester and graduate homework assignments are expected to be more rigorous than corresponding undergraduate assignments.