York University
School of Administrative Studies – Faculty of Liberal Arts and Professional Studies
AP/ADMS 4552 3.0 Information Systems Audit Winter 2022

Course Instructor

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Please send email messages from the YorkU.ca domain only. Plain text. NO attachments as coursework cannot be accepted outside Turnitin. Email from outside the YorkU.ca domain may be blocked.

Virtual office hours: before or after class.

Schedule

Section M: Friday 11:30 – 14:30
Location: Zoom classroom
First day of class: Friday January 14, 2022
https://registrar.yorku.ca/enrol/dates/2021-2022/fall-winter

REQUIRED COURSE TEXT/READINGS

- Alvin A. Arens, Randal J. Elder, Mark S. Beasley, Chris E. Hogan and Joanne C. Jones, (2021), Auditing: The Art and Science of Assurance Engagements, Canadian 15th Edition, Pearson. (Referred to as "Audit Text" in the Readings List)
- CPA Canada eLearning Handbook, available online from York University library, (referred to as "CPA eHandbook" in the Readings List for each class). How to access https://carlin.uit.yorku.ca/faculty/relay/2020-21Winter/siacobel/APADMS4590M/zoom_2_-_20210527_190437_6.html
- Additional material listed below and referenced by links and assignment details posted on the course site.

Supplementary readings: [Note this book is available on reserve at the business library in the Schulich building if you do not have a copy.]
- Hall, James A., (2016), *Information Technology Auditing, 4e*, Mason: South-Western CENGAGE Learning (Referred to as "IT Audit Text" in the Readings List for each class)

Warnings: Photocopying more than 10% of a textbook is illegal, and may involve penalties. Do not duplicate textbooks or obtain these photocopies. Students are reminded of York University's policy regarding academic dishonesty as outline in the York Student Calendars.

Remote course delivery information

Live class timing, logistics and recordings
- All classes and exams will be held remotely – there will be no in-person interactions, activities or activities on YorkU campus, unless notified in advance.
- Zoom sessions will be recorded, however, students should plan to attend the sessions live in order to gain from this interactive course and to obtain attendance/participation marks.
- Students will use their camera and/or microphone. Please ensure you have technological capacity for both.
- You will require a quiet space for live sessions without background noise.

Recordings:
- Students are **prohibited** from recording Zoom classes without express permission of the instructor.
- Should the instructor post class recordings on eclass students must abide the following:
    1. Recordings should be used for educational purposes only and as a means for enhancing accessibility;
    2. Students do not have permission to duplicate, copy and/or distribute the recordings outside of the class (these acts can violate not only copyright laws but also FIPPA); and 3) all recordings will be destroyed after the end of classes.

Live class format
- Zoom sessions will be interactive.
- Students will be assigned to groups for the duration of the course. Your success rests on students showing up, participating and interacting.
- *Zoom username*: please use your legal name matching YorkU name. If you go by a different/nickname please use that and put your legal name in brackets.
- Lecture content to supplement live sessions will be posted as video clips on eclass.
- Students are expected to follow the course schedule provided and complete all readings prior to classes.

Preparation for class and in-class work
- Students will sometimes be required to prepare work *before* the live sessions and other times will prepare work *during* the live session and sometimes both (class work may be done individually with a pair or group depending on the instructions, and submitted during the session.)
- Please refer to the *course outline* prior to class for additional details on pre-class submission requirements.
- *Participation* will be monitored during live sessions and graded according to the following class activities: verbal discussion and presentations, participation in Zoom polls, participation in discussions via chat function, individual/ group submissions to eclass.

Midterm and final exam
- You will need a quiet space and internet connection.
- Exams will be written using Word & Excel. Handwritten exams are not allowed.
- Exams will be held remotely at specified days/times – see the course schedule.
- Exams will be open book and timed.
- There is no makeup or alternate sitting of the midterm – see policies below for missed exams.
- Collaboration during exams is not permissible – all exams must be completed independently and by the student enrolled in the course.
- All exams will be submitted to Turnitin to check for plagiarism.
- Additional information on logistics of exams will be provided on eclass.

Technological requirements for remote classroom
- *Equipment requirements*:
    - Webcam and microphone
- Reliable *internet* connection – Zoom recommends 800kbps/1.0Mbps (up/down) bandwidth for group calls
- You can test your internet speed by typing into Google "What is my internet speed?"
- Minimum computer requirements for Zoom: 2 GHz dual core processor and 4Gb of RAM. See full details here: https://support.zoom.us/hc/en-us/articles/201362023-System-Requirements-for-PC-Mac-and-Linux
- Zoom help/support can be found here: https://support.zoom.us/hc/en-us
- *Printer or second device*: some cases are lengthy which can be challenging to read and prepare a case response using a digital copy of the case. If possible, you should print out cases or access them using a second device (e.g. tablet) or second screen so you can write the response/access zoom on your main laptop/computer while accessing the case separately. A second device/screen will be allowed for all classes including exams.

Additional resources for remote learning:
Student Guide to eLearning at York University Zoom@YorkU Best Practices   Zoom@YorkU User Reference Guide
Laptop/desktop computer Computing for Students Website

COURSE WEIGHTING

Deliverables (Individual work unless stated	Weighting	Due date
Class Participation	10%	Weekly
Hand in Case Assignment	10%	Session 4
Midterm exam - Covers Sessions 1 to 5	20%	Session 6
Audit data analytics assignment	15%	Audit data analytics Navigation Exercise Audit data analytics Analysis Due Session 10
Group assignment	15%	Group Term Paper Group Presentations Due Sessions 11 and 12
Final exam during regular examination schedule	30%	Date assigned by Registrar's Office
Total	**100%**	

Details of assignments will be posted on the course site and discussed in class.

About the Grading Scheme

• **Assignments**

Details of class participation, hand-in-assignments, lab assignments and group presentations will be posted on the course website.

Group projects will be assessed for the following:

- Conceptual understanding and insight
- Clarity of argument and expression
- Quality of investigation and basis for conclusions
- Conclusions and / or recommendations
- Persuasiveness and clarity of oral and written presentation
- Effectiveness when answering questions
- Contribution to class learning

The project submitted should be original work. A group that submits a project that is not original work will get a final class grade of Zero (0) and be subject to university policy regarding academic honesty offences.

• **Class Participation**
Participation by students in class discussions and activities is an important part of this course. Effective participation is possible only by regular class attendance and advance preparation. You should read the required case and readings before coming to class. You will not gain participation marks simply by asking an obligatory question or two. Nor will such marks be based on the number of questions or comments made. Participation grades will reflect the total impact the student has had on the class over the term, through significant and insightful comments, and a demonstration of good problem-solving and analytical skills.

Assignment Submission

All written assignments including the group project should be submitted online on the due date.

It is the student's responsibility to ensure that all assignments are received in an accessible format on or before the due date. Late assignments will receive a grade of zero.

Reallocation of Marks if work is Missed

If a midterm examination is missed due to a valid reason such as illness or other reason approved by the Course Director, the midterm mark allocation will be added to the final examination percentage.

The documentation required to support this reallocation is a completed medical form (physician's statement) provided by the Registrar's Office, available from: http://www.yorku.ca/laps/council/students/documents/APS.pdf

If an assignment is missed, consult with the Course Director. Any assignments that have been discussed in class, or the solutions posted on the course web site, cannot be submitted late, and will receive a grade of zero.

Deferred Examination Policy for Final Examination
Deferred standing may be granted to students who are unable to write their final examination at the scheduled time or to submit their outstanding course work on the last day of classes. In order to apply for deferred standing, students must register at http://apps.eso.yorku.ca/apps/adms/deferredexams.nsf then subsequently hand in a completed DSA (Deferred Standing Agreement) form with supporting documentation directly to the main office of the School of Administrative Studies (282 Atkinson). Wrote your ticket number from the online registration system directly onto the DSA form. The DSA and supporting documentation must be submitted no later than five (5) business days from the date of the exam to the main office of the School of Administrative Studies (282 Atkinson), NOT to the Course Director.

These requests will be considered on their merit and decisions will be made on a case by case basis. Decisions will be made available by logging into the following link: http://apps.eso.yorku.ca/apps/adms/deferredexams.nsf.
No individualized communication will be sent by the School to the students (no letter or e-mails).

Students with an approved DSA will be able to write their deferred examination during the School's deferred examination period. No further extensions of deferred exams shall be granted. The format and covered content of the deferred examination may be different from that of the originally scheduled examination. The deferred exam may be closed book, cumulative and comprehensive and may include all subjects/topics of the textbook whether they have been covered in

class or not. Any request for deferred standing on medical grounds must include an Attending Physician's Statement form; a "Doctor's Note" will not be accepted.

DSA Form: http://www.registrar.yorku.ca/pdf/deferred_standing_agreement.pdf

Attending Physician's Statement form: http://www.yorku.ca/laps/council/students/documents/APS.pdf

CALENDAR DESCRIPTION:

This course covers the audit of computer-based information systems. Topics include business/accounting information system applications, information systems risks, management controls, control evaluation, audit strategies and computer assisted audit techniques.

PREREQUISITES/CO-REQUISITES:

1) For students in the Honours program, 78 credits including AP/ADMS 3595 3.00, AP/ADMS 4551 3.00; and AP/ADMS 2511 3.00 or AP/ADMS 3511 3.00 (prior to Summer 2005) or

 2) other students, these above-listed courses and an average grade of C+ or better in AP/ADMS 3585 3.00 and AP/ADMS 3595 3.00. Course credit exclusion: None.

Students are personally responsible for ensuring that they have the required prerequisites as stated in the course outline or the course calendar. Students who do not have the prerequisites or a signed prerequisite waiver are at risk of being dropped from the course at any time during the course. The department will not be responsible for refunds resulting from students being dropped from a course due to a lack of the appropriate prerequisites.

COURSE SCHEDULE:

Overheads for the lectures will be posted on eclass. Note, changes to practice problems and readings may occur. Please check the course site regularly. Reading references will be provided for both 2018 and 2020 Audit Text editions.

Session Description and Reading	Assignments, Class Work and Practice Questions
Session 1 **Audit Process, Audit Risk Model, Internal Controls Assessment Process** Learning objectives: (1) Apply the financial statement audit process to the audit of advanced information systems (2) Fit the audit risk model to the nature of a client's business (3) Contrast the internal audit process to the financial statement audit process (4) Match the IT Auditor's skills to the audit team's requirements (external and internal auditors) (5) Provide the correct IT audit engagement type for the client's needs (6) Locate and use IT audit standards (ISACA and others) (7) Apply the COSO framework to IT auditing (8) Describe the control risk assessment process Reading: Audit Text (2018): Figure 4-8 The Audit Process, p.111; Handbook: CAS 315, Identifying and assessing the risks of material misstatement through understanding the entity and its environment CAS 330 IT Audit Text: Chapter 1 The auditor's responses to assessed risks Controls (Performance and Supervision Guideline) http://www.isaca.org/Knowledge-Center/ITAF-IS-Assurance-Audit-/IS-Audit-and-Assurance/Pages/Guideline-2203-Performance-and-Supervision.aspx	Practice questions: Canadian Kayak eBay IT audit text: Role of Internal Audit, p. 30
Session 2 **IT Governance, IT Department Controls, Disaster Recovery Planning** Learning objectives: (1) Describe the nature and purpose of IT Governance (2) Link the structure of the IT department and the associated computer centre structure to potential good controls in the IT department (3) Explain how the IT department structure affects the audit process (4) Assess risks of disruption of the IT department and describe preventive and detective controls associated with each risk (5) Describe the components of a DRP (disaster recovery plan) (6) Differentiate the nature of risks, control weaknesses, implications of control weaknesses, internal controls, audit objectives and audit procedures (7) Assess the quality and effectiveness of a DRP and provide recommendations for improvement Readings: Audit Text (2018): Chapter 8 (p. 262-270) COBIT 5 Framework: http://www.isaca.org/COBIT/Pages/FAQs.aspx IT Audit Text: Chapter 2 (p. 33-54 only)	Practice questions: Metro Plastics Ltd System Errors Surefoot Corporation Big Pharma

Session Description and Reading	Assignments, Class Work and Practice Questions
Session 3 **Privacy Controls, Privacy Assurance Engagements, Privacy Impact on Financial Statement Audit, Apply GVV Approach** Learning objectives: (1) Relate Canadian privacy laws in PIPEDA to relevant privacy risks and controls at organizations (2) Assess the quality of privacy controls and provide recommendations for improvement (3) Modify risk assessments for financial statement audits in response to privacy control strengths and weaknesses (4) Discuss advantages/disadvantages and standards for privacy assurance engagements (5) Use the GVV approach to examine an ethical dilemma in IT Readings: IT Audit Text: Chapter 12 (p. 566-570 only) CPA Canada. 2012. "20 Questions Directors Should ask About IT," Review Questions #4, 14, 15, 17 and 20 from: https://www.cpacanada.ca/en/business-and-accounting-resources/other-general-business-topics/information-management-and-technology/publications/20-questions-on-information-technology Gentile, Mary G. undated. "Giving Voice to Values: Ways of Thinking About our Values in the Workplace," from: "Giving Voice to Values Curriculum, " http://www.babson.edu/faculty/teaching-learning/gvv/Pages/curriculum.aspx [go to the header "Foundational Readings and Exercises." It is the first link under this header.]	Practice questions: Canadian Heath Infoway B.C. Ministry of Health

Session 4
Access and Integrity Controls, E-Commerce/Internet and Cloud Computing, EDI
 	
Learning objectives:
(1) Relate access control risks to potential controls and the impact on the audit process
(2) Describe risks and controls for: networks, e-commerce, cloud computing, EDI and PC-based systems
(3) For the above types of systems:
    a. conduct a control risk assessment
    b. provide recommendations for improvement where there are control weaknesses
    c. assess audit strategy and prepare an audit program in response to assessed risks
(4) Flow through the impact of weaknesses in general controls discussed in this class to application cycles and audit procedures
 	
Readings:
IT Audit Text: Chapter 3
 	
CPA Canada. 2012. "20 Questions Directors Should ask About IT," Review Questions #1, 2, 4, 5, 10, 17, 20 from: https://www.cpacanada.ca/en/business-and-accounting-resources/other-general-business-topics/information-management-and-technology/publications/20-questions-on-information-technology
	Practice Questions:
	
	IT Audit Text:
	Problem 4, Internal Control and Fraud, p. 126
	
	Problem 7, Operating System Exposures and Controls, p. 127
	
	Hand-in Assignment due

Session Description and Reading	Assignments, Class Work and Practice Questions
Session 5 **IT Change Management, Audit of IT Change Management, Conversion Audits** Learning objectives: (1) Describe controls to mitigate risks for IT change management (2) Conduct a control risk assessment of IT change management, providing recommendations for improvement (3) Design audit procedures for specific phases of the SDLC (4) Develop a substantive conversion audit program of date for an application cycle (5) Flow through the impact of weaknesses in general controls discussed in this class to application cycles and audit procedures Readings: IT Audit Text: Chapter 5 CPA Canada. 2012. "20 Questions Directors Should ask About IT," Review Questions #9, 11, 13 and Appendix #1 from: https://www.cpacanada.ca/en/business-and-accounting-resources/other-general-business-topics/information-management-and-technology/publications/20-questions-on-information-technology	Practice Questions: Balerssarini Corp. Production Publishing Friggle Corp
Reading Week (NO CLASS)	
Session 6 – Midterm MIDTERM EXAMINATION covering Sessions 1 to 5 **If you miss the midterm examination, please contact your course director immediately.**	Covering Sessions 1 to 5

Session Description and Reading	Assignments, Class Work and Practice Questions
Session 7 *Application Controls, CAATs for Control Tests, CAATs for Data Extraction, Continuous Auditing, Data Analytics* Learning objectives: (1) State the advantages and disadvantages of different types of ADAs (2) Consider the impact of data structure on audit technique selection (3) Provide manual and automated audit techniques by audit assertion (4) Explain the relationship between type of audit test and the audit risk model (5) Use audit data analytics to respond to risks and to conduct audit tests (identify types of tests and their purpose) (6) Describe continuous auditing and how it is implemented (7) State advantages and disadvantages of continuous auditing Readings: IT Audit Text: Chapter 7 IT Audit Text: Chapter 8 (p. 327-330, 350-370) ISACA, IS Auditing Guideline: 2205 Evidence, from: http://www.isaca.org/Knowledge-Center/ITAF-IS-Assurance-Audit-/IS-Audit-and-Assurance/Pages/Guideline-2205-Evidence.aspx CPA Canada, Audit Data Analytics Alert: Keeping up with the Pace of Change, 2016 from: https://www.cpacanada.ca/en/business-and-accounting-resources/audit-and-assurance/canadian-auditing-standards-cas/publications/audit-data-analytics-alert-pace-of-change ISACA Journal, How Analytics will Transform Internal Audit, 2017 from: https://www.isaca.org/Journal/archives/2017/Volume-2/Pages/how-analytics-will-transform-internal-audit.aspx	Download audit data analytics software demo Practice Questions: Delectable Inc. AR CAAT Cheap Music Store
Session 8 *Data Management Risks and Controls, Financial Reporting Systems, Batch vs. Online/Real-time, XBRL* Learning objectives: (1) State the impact of file organization structure on internal controls, general controls, and on backup processes (2) Relate backup processes to the type of file structure (3) Provide audit procedures for the audit of data quality (4) Provide audit procedures for the audit of backup procedures (5) Trace transaction audit trails for different types of data structures (manual, batch, real-time) and provide audit procedures to test the quality of audit trail (6) Describe risks in financial reporting systems, match with controls to mitigate the risks, provide control testing to test the controls, and provide substantive tests required by CASs (7) Same as (6) for XBRL Readings: IT Audit Text: Chapter 4 (skip network model on p. 146] IT Audit Text: Chapter 6 (p. 223-236 (skip documentation techniques), p. 251-258 (skip data coding schema), 264 – end)	Practice Questions: OSAP Mess Fast fresh burgers IT Audit Text: Ch 6, XBRL

Session Description and Reading	Assignments, Class Work and Practice Questions
Session 9 *Sales and Accounts Receivable Audit, Batch vs. Real-Time for Sales* Learning objectives: (1) Assess risks in the revenues, receivables, receipts (RRR) cycle (2) Provide recommendations for improvement to address control weaknesses in the RRR cycle (3) State the purpose of, describe, and provide expected results for CAATs for sales, accounts receivable and cash receipts (4) Assess audit strategy and select audit procedures for the RRR cycle in response to assessed risks (manual or automated) Readings: IT Audit Text: Chapter 9	Practice Questions: Your Team Magic Buttons Audit Text: Beds & Spreads
Session 10 *Accounts Payable and Purchasing Audit, Payroll Audit (Expenditures), Batch vs. Real-Time for Payments* Learning objectives: (1) Assess risks in the purchases and payroll (Expenditure) cycles (2) Provide recommendations for improvement to address control weaknesses in the Expenditure cycles (3) State the purpose of, describe, and provide expected results for CAATs for the expenditure cycles (4) Assess audit strategy and select audit procedures for the expenditure cycles in response to assessed risks (manual or automated) Readings: IT Audit Text: Chapter 10	Audit data analytics Assignments due Practice Questions: Donnen Electronic Technologies Big Blue
Session 11 *ERP, Data Warehousing, Impact of SOX and CSA NI 52-109 on IT Audit, Rotation of Control Testing* Learning objectives: (1) Describe how SOX (U.S.) and Canada's CSA NI 52-109 have affected IT Auditing (2) Relate the nature of ERP to organizational risks associated with ERP (3) Relate the nature of Data Warehousing to organizational risks associated with Data Warehousing (4) Explain why access controls are the most important controls for ERP (5) Provide controls to mitigate risks associated with ERP and Data Warehousing (6) Assess audit strategy and select audit procedures in response to assessed risks for the audit of ERP and Data Warehousing (7) State the impact of the control environment and general controls on rotation of control testing Readings: IT Audit Text: Chapter 11	Group Project due Practice Questions: Shiny Computers Audit Text: 9-29, Rotational Testing Turner Valley

Session Description and Reading	Assignments, Class Work and Practice Questions
Session 12 *Audit of Outsourcing Arrangements, AICPA Trust Principles, SOC Reports, Small Business IT Controls and Audit, Block Chain and implications on Assurance* Learning objectives: (1) Assess risks in small businesses pertaining to IT (2) Provide recommendations for improvement for small business weaknesses pertaining to IT (3) Assess audit strategy and select audit procedures for the audit of small business (4) Assess risks associated with outsourcing arrangements (5) Assess the audit impact of outsourcing arrangements (6) Describe the types of assurance reports associated with outsourcing (7) Select and discuss the relevance of service organization assurance reporting (8) Describe the role and use of the AICPA Trust Principles, WebTrust and SysTrust <u>Readings:</u> Audit Text (2018), Chapter 8, Understanding Controls of Small Organizations p. 271 Handbook: CAS 402 – Audit Considerations Relating to an Entity Using a Service Organization CSAE 3416 – Reporting on Controls at a Service Organization AICPA, Blockchain Technology and Its Potential Impact on the Audit and Assurance Profession, 2018 from: https://www.aicpa.org/interestareas/frc/assuranceadvisoryservices/blockchain-impact-on-auditing.html Deloitte, Blockchain: A Game Changer for Audit Process, 2017 from: https://www2.deloitte.com/mt/en/pages/audit/articles/mt-blockchain-a-game-changer-for-audit.html#	Group Presentations Practice Questions: PPP Limited YourTaxReturn.com Janbec Limited
Session 13 – Final Examination *Covers the entire course* Regular examination schedule TBD.	TBA – this date is set by the Registrar's Office