DEPARTMENT OF ACCOUNTING

INTERNAL CONTROLS & ACCOUNTING INFORMATION SYSTEMS - A DATA ANALYTICS PERSPECTIVE

ACCT-GB.3315

Spring 2020

Instructor: Prof. Joel Lanz, MBA, CPA/CGMA/CFF/CITP, CFE, CISSP, CISA, CISM
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DATES	Section #	DAY	TIME	LOCATION
2/3-5/19	M1	W	1:30pm-4:20pm	3-70

Bulletin Description:

The purpose of this course is to help prepare you for a successful career in public practice, industry, or government by understanding how accountants and other financial professionals rely on, manage and translate data generated by accounting information systems and other technology-related data sources to guide clients and organizations in making better business decisions in an increasingly complex and data-driven world. Using an accountant's perspective, the course will integrate the study of big-data analytics and technology and the application of related software to the establishment and management and auditing of internal control systems.

Course Materials:

The required text for the class is "Information Technology Control and Audit, 5th Edition, Angel R. Otero, 2019." CRC Press, ISBN-13: 978-1-4987-5228-2 (ISBN is for the hardback print copy).

You can choose any format of the text that best satisfies your study and budget needs. We will be making extensive class use of end of chapter discussion questions, short problems, and problems. Please make sure that you will have access to this information during class.

Other course materials will be available on the course website. This includes videos, cases, self-study references, and other assignment instructions. Please use your school's .edu address to directly obtain a free academic license from Tableau and Alteryx.

Course Objectives/Goals (What I hope you will learn from the course):

Welcome to Internal Controls and Accounting Information Systems – A Data Analytics Perspective (GB 3315)!

GB 3315 will help prepare you for an increasingly complex world where technology continues to influence and disrupt existing business models and service delivery strategies. My goal is to prepare you for a successful transition to public practice, industry, or consulting by understanding how to audit, use, and participate in the design of accounting information systems.

During our time together, you will learn how to assess, design, and consider the impact of IT governance, risk, and compliance on financial reporting and business operations. Our lectures, discussions, and assignments will focus on how managers address IT and business processes to help achieve organizational objectives and ensure accurate financial reporting. Through selected tasks that simulate real-world professional accounting and data analytics challenges, you will gain confidence in your developing abilities to assess accounting system controls and to effectively design risk mitigation strategies for systems for which you provide assurance or advisory services. Some of you will use this knowledge in a direct management capacity or contribute to various aspects of acquisition and merger due diligence assignments. As appropriate, we also examine selected IT-related regulatory and financial reporting developments.

I appreciate that for many of you, our profession's CPA licensing exam is on your mind. GB 3315 will help you gain confidence in answering the information technology and corporate governance topics of the BEC section and selected information technology and data analytics-related topics in the AUD section.

You will be graduating into an increasingly competitive global marketplace clamoring for professionals who can provide better information assurance and the ability to facilitate business development opportunities and performance

insight enabled by technology. While IT professionals have the technical expertise necessary to ensure the secure configuration of IT hardware or proper deployment of technology solutions, their solutions lack the CPA's or financial manager's perspective and ability to understand the complicated business implications, governance challenges, and risks associated with technology.

This syllabus will help you understand course expectations and plan for the upcoming semester. To facilitate your use, I divided it into the following sections:

SECTION	PAGE
Grade Determination and Course Requirements	3
Course Contents, Preparing for Class and Schedule	5
Course Design Considerations	6
General Course Notices and Policies	7
Course Map	Appendix

The course map at the end of the syllabus (appendix) provides you with detailed information to schedule your time for the course. I've included information to help you use the course map in the course contents section of the syllabus.

Should you need any accommodations, please let me know as soon as you can.

Please don't hesitate to contact me ANYTIME with any questions or concerns – I am just a phone call or email away. And don't forget to take advantage of office hours – whether for class topics or career advice. I look forward to serving as your Professor and hope you will have a successful semester!

Best,

Prof. Lanz

SECTION: GRADE DETERMINATION AND COURSE REQUIREMENTS:

SEGMENT	TYPE	% OF GRADE
Homework Exercise and Case Discussions/Presentations	Team	13%
Tableau and Alteryx (Learn individually – submit as a team)	Team	12%
Individual Value Add to Class	Individual	15%
Exams (3)	Individual	60%

The School's Grading Guidelines serves as a basis for determining grades:

- A's – awarded for excellent work
- B's – awarded for good or very good work
- C's (or below) – awarded for adequate or below work.

TEAM ASSIGNMENTS:

In total, the two segments of the team assignments will reflect 25% of your grade. Students share diverse opinions on team composition. Some of these concerns result from the risk of individual team members not fulfilling their team responsibilities resulting in overall weak team performance. I've adapted the following policy for the class:

- I will randomly assign students to teams of four or five (I will adjust grading expectations for groups of four). Once assigned, changes to these assignments are not permitted.
- Groups of five (5) students may petition to form their team (I will only consider groups of five). I must receive the request in the form described below no later than Monday, February 10, by 8 PM Eastern. Please send your application using NYU addresses, and copy each team member on the email. You must include "GB 3315 Team Petition Request" in the subject of the email to ensure accurate processing. I will review the team and respond in the email indicating whether I approve your request. Once approved, changes to the team will not be permitted.
- I reserve the right to change team assignments as needed to reflect unusual circumstances requiring my involvement.
- I will assign one total score for each of the two group components at the end of the semester. Although I intend to assign the same score to the entire team, I reserve the right to adjust (either up or down) based on my observations and inquiries regarding individual member contributions to the group

Homework Exercises and Case Discussions/Presentations (Team) – 13% of Grade

As class time will be a collaborative working session of problem-solving and interactive discussions, your active participation both as an individual and a member of a team is critical to your understanding and mastering of the course material. Together, we will discuss various case studies and homework problems that provide a practical reference for applying the knowledge gained through readings and lectures. We will also apply knowledge gained in the course to various case studies developed by Big 4 firms. Collaborating with a team of colleagues enables you to leverage your time investment in completing cases and homework assignments and supports your efforts as you discuss the homework assignment during class.

After confirming your team assignment (between the second and third classes), I will provide you with a schedule highlighting specific team assignments based on the information contained in the course map. Teams will rotate responsibilities throughout the semester. These may include leading the class in the discussion of an end of chapter exercise, presenting an entire or sections of an assigned case, or submitting a written response to a task or case. For some of these assignments, you may also have to prepare flowcharts or other diagrams to discuss/analyze in class. Your team may be assigned the role of reviewer/critique of other groups.

Tableau and Alteryx (Learn Individually-Submit as a Team) – 12% of Grade

You will obtain a free academic software license for both Tableau (has both Windows and MAC) and Alteryx (needs Windows or a virtual Windows environment). For students new to the software, both vendors provide videos that will allow you to quickly learn foundational software features to enable you to complete the assigned case. During the semester, you and your team will work on two data analytic case studies (one each for Tableau and Alteryx) that will help you develop your data analytics, visualization, and skills needed to extract, transform and load (ETL) skills. We will use cases developed by the Big 4 in both situations.

The course map provides intermediate dates to help you and your team stay on track with learning and analyzing the case. It will also help you and your team better manage potential conflicting dates of other assignments and exams. Teams should accumulate these case assignments and submit them together on the designated due date indicated in the course map.

As the primary purpose of these cases is to help develop your skills using these two applications, I will share videos produced by the case developers that explain how to use the software to solve case requirements.

INDIVIDUAL ASSIGNMENTS:

In total, the two segments of the individual assignments will reflect 75% of your grade.

Value Add to Class (Individual) – 15% of Grade

During each class meeting, I invite you to participate in classroom discussions and in-class exercises. To do so usually requires that you appropriately prepare for class. Active involvement includes, (1) volunteering throughout the course, (2) ready to respond if called on, (3) asking pertinent questions of the speakers/classmates and the Professor, and (4) actively participating in the Q&A sessions following group presentations. Please note that these activities are in addition to your contributions made as part of a team described above. Please record all your contributions in a log (I will provide a sample in our course website) and submit it at the end of the semester (see the due date in the course map).

Three Exams (Individual) – 20% each of Grade (Total 60%)

There will be three exams in this course. The level of difficulty of exam questions will be like that of professional accounting-related certification exams (e.g., CPA, CMA, CISA, CIA) and will test your ability to apply, analyze and evaluate the course materials. Your studies should plan for the use or demonstration of knowledge, concepts or techniques; the examination and review of the interrelationships of separate areas to identify causes and to find evidence to support inferences; and the examination or assessment of problems, and use of judgment to draw conclusions.

To assist you in becoming familiar with these types of questions, I will provide examples of previous exam questions with videos explaining the approach and response to the exam questions. I will also provide further information about the exams during the semester

SECTION: COURSE CONTENTS, PREPARING FOR CLASS AND SCHEDULE (subject to change)

The appendix includes a course map. In reviewing the map, please note the following:

1. The map specifies topics to be covered, recommended reading before class, lecture components, optional class preparation material, software videos, mandatory group exercises, and case assignments. Those students pursuing a risk advisory career focus will find the optional reading beneficial.

2. There are fourteen weeks (including the final) plus one week for Spring Recess. Each week starts on a Wednesday and ends on a Tuesday. Unless indicated otherwise, assignments are due on the first day of the week – Wednesday.

3. Each lecture typically consists of two components (a) and (b). The first component usually involves discussing homework and cases from the prior week's class. Some weeks there is a third component (c) or fourth component (d) generally reflecting some formal submission or exam. Components (c) and (d) can indicate a due date other than the first day of the week (Wednesday).

4. Bolded items reflect formal submissions, including exams, projects, and logs. PLEASE NOTE DUE DATES AND TIME.

5. Please consider reading the assigned text/whitepaper before the lecture. To ensure that I address issues you may have with the readings, please contact me before the class so that I can include it as appropriate.

6. The class includes students of diverse Accounting Information Systems (AIS), Information Technology (IT), or Business Analytics background. Topics typically addressed in an undergraduate course are prefaced by *"(if needed)."* Depending on your experience, you may or may not need to read the material or view the video. Assignments assume that you have the foundational knowledge included in these resources.

7. You can access the Professor's and Big 4 firm 's videos (cases) through the class website. You will need to sign into the Alteryx and Tableau websites to view their videos.

8. I've tried to evenly distribute elements of the Tableau and Alteryx assignments throughout the semester. You only need to submit the interim assignments at the end of the case. You can better balance your course obligations and learn the material if you work on these assignments throughout the semester. Ultimately, it is up to you and your team to plan these assignments to best fit your schedule(s) and obligations.

9. The completion of Review Questions is optional and generally not reviewed in class. These questions provided at the end of the chapter typically can be answered by reading the text. The course map identifies review questions that are more likely to be discussed in class, tested on exams, or needed to complete group assignments.

10. Group Exercises and Cases studies help demonstrate the principles we are studying in-class or reading in the text. I recommend that you work through these assignments regardless of whether your team is assigned the task. Any contributions made by a non-assigned team will qualify for individual value add to class credit.

11. Please recognize that the cases may provide multiple correct answers depending on your team's approach and assumptions. That is the nature of many accounting information system challenges. As you prepare, participate and review class discussions, it is essential to understand why one alternative solution is better given the situation presented in the case.

12. Students interested in focusing their professional efforts in risk advisory should consider reviewing the optional additional readings as time permits or after the semester.

13. In the case of inclement weather, please monitor your NYU email. In case the class is canceled (e.g., weather), I will post appropriate videos for the lecture in NYU Classes. I will contact impacted teams to

determine alternative solutions for their assignments.

14. Should we not be able to finish the lecture material by the end time of class, I will also provide appropriate videos in NYU Classes.

SECTION: COURSE DESIGN CONSIDERATIONS

References and additional reading

CIS Controls. Report no. v 7, Center for Internet Security.
Framework for Improving Critical Infrastructure Cybersecurity. Publication no. v 1.1, National Institute of Standards and Technology, 16 Apr. 2018.
"CPA Exam Blueprints," available at https://www.aicpa.org/becomeacpa/cpaexam/examinationcontent.html
Various AICPA Service Organization Control suite of services publications available at (https://www.aicpa.org/interestareas/frc/assuranceadvisoryservices/sorhome.html.
Various COSO guidance publications available at https://www.coso.org/Pages/guidance.aspx.
Various ISACA CoBIT-related publications available at http://www.isaca.org/cobit/pages/default.aspx
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Influence of recent Professional organization activities on course design:

On their website (https://www.ifac.org/global-knowledge-gateway/technology?overview), the International Federation of Accountants summarized the challenges and opportunities facing the accounting profession:

- "After 600 years of a two-ledger bookkeeping practice and 30 years of Excel spreadsheets, businesses are moving quickly toward the use of automation to account for daily transactions. This seismic shift will impact not only the way business operates, but also the day-to-day role of accountants. Technological developments continue to significantly impact nearly every aspect of business across all organizations regardless of size or sector. Rapid transformation continues to challenge the status quo and change thinking. From social media to self-driving cars, the last decade alone has seen groundbreaking technological advancements in all industries. Accountancy—the language of business—is no exception. The importance of professional accountants monitoring and adapting to changes driven by technology is clear. Doing so will enable us to continue to support organizations and help us remain relevant as the marketplace and society undergo rapid change.

- The introduction of emerging technologies brings new opportunities for both how professional accountants operate and the nature of our roles. This includes the impact of automation on transactional tasks, cloud computing and new emerging areas, such as cybersecurity and predictive analytics, together with a focus on providing valuable insights. Looking forward, blockchain, artificial intelligence and advancements in robotics are expected to further transform business models and change workforces' skills and competencies.

The AICPA recently introduced a variety of new assurance services enabling professionals to provide assurance services for technology-related environments, including the SOC suite of services (SOC for Service Organizations and SOC for Cybersecurity). Students will be able to differentiate between these services and help management implement the results of these reports into an overall risk management program

COSO issued the 2017 update to the *Enterprise Risk Management — Integrated Framework* to address the evolution of enterprise risk management and the need for organizations to improve their approach to managing risk to meet the demands of an evolving business environment. The updated document, *Enterprise Risk Management — Integrating with Strategy and Performance*, highlights the importance of considering risk in both the strategy-setting process and in driving performance.

ISACA (formerly known as Information Systems Audit and Control Association) engages in the development,

adoption, and use of globally accepted, industry-leading knowledge and practices for information systems including the development and administration of the Certified Information Systems Auditor (CISA) and Certified Information Systems Manager (CISM) programs. ISACA is also responsible for the development and maintenance of CoBIT, a leading framework for the governance and management of enterprise IT.

The course is composed of the following topics and their approximate percentage of course time:
- Conceptual foundations of Accounting Information Systems (10%)
- Evaluating technology-based internal controls from an enterprise risk perspective using COSO-ICFR, COSO-ERM, CoBIT, and other AIS-related recognized frameworks (25%)
- Consideration of pervasive and general IT controls including AICPA-related technology products including but not limited to the Services Organization Controls (SOC) suite of services (15%)
- Accountants use of analytics (15%)
- System Development Process and IT Vendor Management Oversight including System Implementation, Change Control, and Operations (20%)
- Application Controls including the use of control matrices to assess controls (15%)

SECTION: GENERAL COURSE NOTICES AND POLICIES

Professor's Office Hours:

I invite you to visit me during office hours with or without an appointment. I am available to discuss class contents, professional development, and career strategies. When possible or when you are making a special trip to visit with me, I do advise making an appointment to ensure that I am ready to meet with you when you come. Students making appointments will always receive priority over students without one. Should I not be in my office during office hours, please call me (the number in the syllabus forwards to my cell) as I am probably somewhere in the building.

Re-Grading:

In line with Grading Guidelines for NYU Stern, the process of assigning grades is intended to be one of unbiased evaluation. Students are encouraged to respect the integrity and authority of the professor's grading system and discouraged from pursuing arbitrary challenges to it.

If a student feels that an inadvertent error has been made in the grading of an individual assignment or in assessing the overall course grade, a request to have the grade re-evaluated may be submitted. Students should submit such requests in writing to the professor within seven days of receiving the grade, including a brief written statement supporting the concern.

Class Conduct and Participation

Students are expected to attend class and to be thoroughly prepared to discuss the assigned readings and assignments. Professional standards continually evolve and change. As part of their professional development, students will need to learn how to monitor developments and maintain their competencies.

All participants must engage in appropriate professional behavior that includes prompt arrival to class, courteous participation in class (i.e., being attentive while others are speaking, dedicating your attention to this class while the lecture is in session and leaving class at the designated time), and professional preparation for class. To prepare for class professionally, you should read the assignments before class, solve assigned problems, engage in-class discussions, and actively participate in group activities.

Consider the following additional points as you prepare for class:

- It would help if you were ready to discuss all the readings on the dates assigned. We will not have enough

> time to cover everything necessary in the class, so you must take the initiative to raise questions about material that you do not understand.

- As clients expect from a licensed professional and their practice, appreciate the effort required to prepare for class properly.
- Use group study and automated tools to manage your time more effectively. As in the real world, you are encouraged to "network with your peers" as necessary (except for individual assignments including but not limited to exams) to prepare for and complete tasks.
- CETG will record all classes and make them available within 24 hours. If there is an aspect of the lecture that you wish to rehear, note the time in your notes, as this will facilitate your ability to access that specific aspect of the session.

Contributions and class participation during our use of cases and assignments constitute an integral part of our shared experience. Your active participation helps me to evaluate your overall performance as a student (as well as making the class more interactive and engaging for all of us as we address issues that many Accounting professionals consider complex and challenging). I value the quality of your participation more than the quantity. Some find it uncomfortable to present viewpoints in a large group setting or even to partner on a team- yet, contributing to discussions and being an active team member is an essential part of your professional development and future success as a CPA. Please do not hesitate to contact me if you are looking for "equivalent" ways to contribute in a manner that makes you feel comfortable.

Use of Electronic Devices in Class

While electronic/wireless devices can enhance the teaching and learning experience, they can also be a potential source of distraction for students, instructors, and the classroom setting. In keeping with the opportunistic aspects of technology that serves as the course theme, these devices will be permitted subject to the following terms:

Students are welcome to use electronic devices during class that enhances their performance. However, the use of these resources must be "appropriate" for an academic setting. Examples of appropriate use include notetaking on laptops or tablets, the use of smartphones to calendar events/assignments, use of devices to complete quick internet searches for pertinent information. If students engage in "inappropriate" use of electronics within the class, then their right to use these devices in the future will be removed. Inappropriate use includes but is not limited to:
- texting your friends or reading "non-AIS" texts while in class;
- sending emails/texts (an occasional "read" is permitted as long as not abused);
- surfing the net for non-class purposes (e.g., Facebook, LinkedIn, and other social media); and class recordings of any type.

If there are ongoing issues with numerous students, I will remove the privilege from all students to ensure the necessary standards of an academic setting. *If you need to "multi-task," please let me know before the start of the class and sit in a designated section that will not disrupt your fellow student's attention.*

Academic Integrity:

Integrity is critical to the learning process and to all that we do here at NYU Stern. As members of our community, all students agree to abide by the NYU Stern Student Code of Conduct, which includes a commitment to:
- Exercise integrity in all aspects of one's academic work, including, but not limited to, the preparation and completion of exams, papers, and all other course requirements by not engaging in any method or means that provides an unfair advantage.
- Acknowledge the work and efforts of others when submitting written work as one's own. Ideas, data, direct quotations, paraphrasing, creative expression, or any other incorporation of the work of others should be fully referenced.
- Refrain from behaving in ways that knowingly support, assist, or in any way attempt to enable another person to engage in any violation of the Code of Conduct. Our support also includes reporting any observed violations of this Code of Conduct or other School and University policies that are deemed to affect the NYU Stern community adversely.

NYU STERN Policies:

Unless specifically identified in the syllabus, default Stern policies apply to this course. The School expects that students will conduct themselves with respect and professionalism toward faculty, students, and others present in class and will follow the rules laid down by the instructor for classroom behavior. Students who fail to do so may be asked to leave the classroom. Students are encouraged to work together for homework assignments. Course evaluations are beneficial to students who come after you and to us. Please complete them thoughtfully. Your class will be recorded for educational purposes. The entire Stern Student Code of Conduct applies to all students enrolled in Stern courses and is available at:

- Undergraduate College: http://www.stern.nyu.edu/uc/codeofconduct
- Graduate Programs: http://w4.stern.nyu.edu/studentactivities/involved.cfm?doc_id=102505

Student Contact Information:

Student contact information must be kept current to receive important notices from the school and me. Your contact information is **online via your NYU Learns course e-mail**. Please check your local address, local phone number, and emergency contact information on the school's Web and revise as needed. All-important class notices, including class communications, will be sent only to your NYU Classes email address.

Students with Disabilities

If you have a qualified disability and will require academic accommodation of any kind during this course, you must notify me at the beginning of the course and provide a letter from the Moses Center for Students with Disabilities (CSD, 998-4980, www.nyu.edu/csd) verifying your registration and outlining the accommodations they recommend. If you need to take an exam at the CSD, you must submit a completed Exam Accommodations Form to them at least one week before the scheduled exam time to be guaranteed accommodation.

DON'T BE SHY – CONTACT ME IF HELP IS NEEDED. In-person appointments available before and after class, telephone or skype on most weeknights and weekends (yes, weekends) Alternatively, call my number anytime, and if possible, I will respond. If leaving a message, provide three alternative times (and send an email – so that I can respond) so that we can agree on a time.

GB 3315 Spring 2020 COURSE MAP - Course Schedule, Leture Topics, Assignments and Due Dates

WEEK	DATES BEG (W) AND END (TU)		TYPE	TOPIC	READ	LECTURE/VIDEO		PROJECT VIDEOS	OPTIONAL	MANDATORY	CASE DUE	FURTHER READING
						LECTURE COMPONENTS	VIDEOS	See syllabus for info	REVIEW QUESTIONS	GROUP EXERCISE	Group	(For RISK ADVISORY PROFESSIONALS)
1a	5-Feb	11-Feb	LECT	Orientation and Course Introduction	Syllabus	Course Orientation	None	None	None	None	None	None
1b	5-Feb	11-Feb	LECT	Technology and Analytics - Introduction	None	Demystifying Artifiicial Intelligence (RPA and Machine Learning) - An Introduction	(If Needed) Tableau Getting Started (35 min) Getting to Data (62 min)	None	None	None	None	Various refrences identified in the presentation.
1c	5-Feb	11-Feb	VID	(If Needed) Introduction to the Analytics Mindset (EY) - Watch Professor's Videos online	(If Needed) EY Powerpoint on Analytics Mindset	(If Needed) Introduction to the Analytics Mindset (EY) - NOTE: First go through the EY powerpoint. If you need further clarification then watch Professor's Videos online. Videos are broken into sections so you only need to view those videoe for which you need further clarification.	See Note in column to the left. Review the powerpoint first. Don't memorize just appreciate what EY is saying.	None	None	None	None	"Data Analytics for External Auditors" (ICAEW)
2a	12-Feb	18-Feb	LECT	Information Technology Environment & IT Audit	Otero - 1	Objectives and IT Environment Need and Role of IT Audit IT Audit Trends and Governance IT Audit and Career Opportunities	None	TechWear Part 1 (Excel/Tableau)	None	None	None	Protiviti/NC State "Executive Perspectives on ERM 2020"
2b	12-Feb	18-Feb	LECT	The IT Audit Process	Otero - 3 "Ace the Case" (KPMG)	Introduction to CoBIT IT Audit Plan IT Audit Program IT Audit Testing Documentation and Communication	(If Needed) Tableau Visual Analytics (142 min) Dashboards and Stories (40 min)	None	None	None	None	Deloitte "2019 Hot Topics for IT Internal Audit in Financial Services"
3a	19-Feb	25-Feb	DISC	The IT Audit Process Tools & Techniques (Intro)	None	None	None	TechWear Part 2 (Excel/Tableau)	CH.3RQ - 1, 2, 3, 4, 5, 8, & 11.	CH3.3EX - 3, 4 and 5	StellenTek (KPMG)	None
3b	19-Feb	25-Feb	LECT	Tools, Techniques and Anaytics Used in Auditing	Otero - 4	Objectives and Introduction to CAATs CAAT Focus on Applications Auditing Around vs. Through the Computer	None	None	None	None	None	None
3c	19-Feb	25-Feb	VID	Tools, Techniques and Anaytics Used in Auditing	Otero - 4 (pp. 97-108)	(If Needed) Flowcharting Basics	(If Needed) Professor video on KPMG Flowchrating.	None	None	None	None	None
4a	26-Feb	3-Mar	DISC	Tools, Techniques and Anaytics Used in Auditing	None	None	None	TechWear Part 3 (Note: no video - matrix)	CH.4 RQ - 2, 3, 5, 8	CH.4EX - 2, 3	Flowcharting the Revenue Cycle (KPMG)	None
4b	26-Feb	3-Mar	LECT	IT Governance and Strategy	Otero - 5	Objectives and IT Governance Measuring IT Performance IT Strategy IT Governance	None	None	None	None	None	None
5a	4-Mar	10-Mar	DISC	IT Governance and Strategy	None	None	None	TechWear Part 4 (Tableau)	Ch.5 RQ 2, 3, 5, 6, 8, 9, 10	CH. 5 EX 1, 2, 3	Significance of IT Ch 5 Case	None
5b	4-Mar	10-Mar	LECT	Risk Management	Otero -6 COSO ERM Executive Summary	Objectives and COSO ERM Risk Management Insurance	None	None	None	None	None	None
6a	11-Mar	24-Mar	TEST	EXAM #1 Lectures 1a-5a	EXAM #1 Lectures 1a-5a	EXAM #1 Lectures 1a-5a	EXAM #1 Lectures 1a-5a	TechWear Part 5 (Tableau)	EXAM #1 Lectures 1a-5a	EXAM #1 Lectures 1a-5a	EXAM #1 Lectures 1a-5a	EXAM #1 Lectures 1a-5a
6b	11-Mar	24-Mar	DISC	TechWear Workshop (Time allotment for Team Disucssions and planning)	TechWear Workshop (Time allotment for Team Disucssions and planning)	TechWear Workshop (Time allotment for Team Disucssions and planning)	TechWear Workshop (Time allotment for Team Disucssions and planning)	TechWear Workshop (Time allotment for Team Disucssions and planning)	TechWear Workshop (Time allotment for Team Disucssions and planning)	TechWear Workshop (Time allotment for Team Disucssions and planning)	TechWear Workshop (Time allotment for Team Disucssions and planning)	TechWear Workshop (Time allotment for Team Disucssions and planning)

6c	11-Mar	24-Mar	SUB	SUBMISSION TechWear Project due March 24 by 11 PM EST.	SUBMISSION TechWear Project due March 24 by 11 PM EST.	SUBMISSION TechWear Project due March 24 by 11 PM EST.	SUBMISSION TechWear Project due March 24 by 11 PM EST.	SUBMISSION TechWear Project due March 24 by 11 PM EST.	SUBMISSION TechWear Project due March 24 by 11 PM EST.	SUBMISSION TechWear Project due March 24 by 11 PM EST.	SUBMISSION TechWear Project due March 24 by 11 PM EST.	SUBMISSION TechWear Project due March 24 by 11 PM EST.
RECESS	18-Mar	24-Mar	OFF	SPRING RECESS	SPRING RECESS	SPRING RECESS	SPRING RECESS	SPRING RECESS	SPRING RECESS	SPRING RECESS	SPRING RECESS	SPRING RECESS
7a	25-Mar	31-Mar	DISC	Risk Management	None	None	None	Alteryx Getting Started (60 min)	Ch. 6 RQ 1, 3, 4, 5, 8, 9, 10	Ch. 6 EX 4	Wells Fargo (Stanford)	NIST 800-30 Rev. 1 "Guide for Conducting Risk Assessments" (For IT Risk Specialists)
7b	25-Mar	31-Mar	LECT	Systems Acquisition, Service Management and Outsourcing	Otero -13	Objectives and Introduction Reuirements to Feasability Selection to Procurement Service and Outsourcing IT Audit Considerations	None	None	None	None	None	None
8a	1-Apr	7-Apr	DISC	Systems Acquisition, Service Management and Outsourcing	None	None	None	ETL Case 1 (Alteryx)	Ch. 13 RQ 2, 3, 4, 5, 6, 10.	Ch. 13 EX 1, 2	Ch. 13 EX 3 (SSAE 18) Software AcquisitionCh. 13 Case	None
8b	1-Apr	7-Apr	LECT	Application Systems	Otero-9	Objectives and Introduction Application Risks EUD and Web Applications Application Controls Processing and Output Controls	None	None	None	None	None	None
9a	8-Apr	14-Apr	DISC	Application Systems	None	None	None	ETL Case 2 (Alteryx)	Ch. 9 RQ 1, 2, 3, 5, 8, 9 and 10.	Ch. 9 EX 1, 2, 3, 4.	Input Controls Ch. 9 Case	None
9b	8-Apr	14-Apr	LECT	Information & Cybersecurity	Otero - 12 (pp.315-321) CISEecurity Top 20	Objectives and Introduction Confidentiality, Integrity & Availability Infrastructure Considerations	None	None	None	None	None	None
10a	15-Apr	21-Apr	TEST	EXAM #2 Lectures 5b-9a	EXAM #2 Lectures 5b-9a	EXAM #2 Lectures 5b-9a	EXAM #2 Lectures 5b-9a	EXAM #2 Lectures 5b-9a	EXAM #2 Lectures 5b-9a	EXAM #2 Lectures 5b-9a	EXAM #2 Lectures 5b-9a	EXAM #2 Lectures 5b-9a
10b	15-Apr	21-Apr	DISC	ETL Workshop (Time allotment for Team Disucssions and planning)	ETL Workshop (Time allotment for Team Disucssions and planning)	ETL Workshop (Time allotment for Team Disucssions and planning)	ETL Workshop (Time allotment for Team Disucssions and planning)	ETL Workshop (Time allotment for Team Disucssions and planning)	ETL Workshop (Time allotment for Team Disucssions and planning)	ETL Workshop (Time allotment for Team Disucssions and planning)	ETL Workshop (Time allotment for Team Disucssions and planning)	ETL Workshop (Time allotment for Team Disucssions and planning)
11a	22-Apr	28-Apr	DISC	Information & Cybersecurity	Otero -12 (pp. 321-331)	Security Threats & Risks Infosec Standards & Frameworks Infosec Governance	None	ETL Case 3 (Alteryx)	None	None	None	None
11b	22-Apr	28-Apr	DISC	Information & Cybersecurity	Otero -12 (pp. 332-340)	Infosec Controls IT Audit	None	None	None	None	None	None
12a	29-Apr	5-May	DISC	Information & Cybersecurity	None	None	None	ETL Case 4 (Alteryx)	Ch. 12 RQ 1, 3, 4, 5, 6, 7, 8, 9 and 10.	Ch. 12 EX 1 and, 2.	Information Security Program Ch. 12 Case (Target, Equifax, Sony)	None
12b	29-Apr	5-May	DISC	Information & Cybersecurity	None	None	None	None	continued from above	continued from above	continued from above	None
12C	29-Apr	3-May	SUB	SUBMISSION ETL Project DUE MAY 3 11PM	SUBMISSION ETL Project DUE MAY 3 11PM	SUBMISSION ETL Project DUE MAY 3 11PM	SUBMISSION ETL Project DUE MAY 3 11PM	SUBMISSION ETL Project DUE MAY 3 11PM	SUBMISSION ETL Project DUE MAY 3 11PM	SUBMISSION ETL Project DUE MAY 3 11PM	SUBMISSION ETL Project DUE MAY 3 11PM	SUBMISSION ETL Project DUE MAY 3 11PM
12d	29-Apr	3-May	SUB	SUBMISSION Individual Value Add Log DUE MAY 3 11PM	SUBMISSION Individual Value Add Log DUE MAY 3 11PM	SUBMISSION Individual Value Add Log DUE MAY 3 11PM	SUBMISSION Individual Value Add Log DUE MAY 3 11PM	SUBMISSION Individual Value Add Log DUE MAY 3 11PM	SUBMISSION Individual Value Add Log DUE MAY 3 11PM	SUBMISSION Individual Value Add Log DUE MAY 3 11PM	SUBMISSION Individual Value Add Log DUE MAY 3 11PM	SUBMISSION Individual Value Add Log DUE MAY 3 11PM
13	6-May	12-May	DISC	Course Review, Catch-Up and Debrief	None	None	None	None	None	None	None	None

14	13-May	13-May	TEST	EXAM #3 Lectures 9b-13	EXAM #3 Lectures 9b-13	EXAM #3 Lectures 9b-13	EXAM #3 Lectures 9b-13	EXAM #3 Lectures 9b-13	EXAM #3 Lectures 9b-13	EXAM #3 Lectures 9b-13	EXAM #3 Lectures 9b-13	EXAM #3 Lectures 9b-13