Instructor: Pooja Sund
Class Schedule: Thursdays from Jan 6 - March 10 from 6 PM to 8:40 PM

Data Analytics and Visualization in Accounting

Data analytics (DA) and visualization play a crucial role in decision-making. Accountants are expected to be members and leaders of a data analytics teams. This course teaches the practical and technical skills necessary to analyze, visualize and effectively communicate information captured by accounting data in written and visual form. This course will teach you how to report DA results using a visualization tool and build powerful dashboards for executive reporting after extracting, transforming, and loading accounting data.

PREREQUISITES:
Basic Excel Pivot and Chart skills (Ability to make charts using excel data)

LEARNING OBJECTIVES:
The primary learning objective of ACCT 5910-01 is to provide students with practical and technical skills to visually learn from data and communicate findings. At the end of this course students will be able to:

1. Ask the right questions
2. Extract, transform, and load relevant data
3. Apply appropriate data analytics techniques
4. Interpret and share the results with stakeholders

Albers Learning outcomes:
- Demonstrate mastery of competencies required in their profession or field
- Demonstrate effective communication in speech and in writing
- Exhibit effective collaboration skills

MPAC learning outcomes:
- Synthesize accounting information within the context of other business functions to inform the business decision-making process.
- Recommend a course of action to a prospective client by using a framework or model to analyze financial statements and other relevant data.
TEACHING APPROACH:
There will be a combination of lecture and in-class activity. There will be assigned reading and activities prior to class, then a portion of class will be spent applying techniques from the assigned readings and activities.

RECOMMENDED:
The books below, while not required, will expand your knowledge of data analytics in accounting as well as visualization techniques. I will be summarizing points from these texts in lecture. I recommend you purchase these texts to build your library—you will gain strong insights from reading these texts as you progress through your career.


Intro to Big Data, Geerts, Guido, 2017


Recommended Articles on Data Analytics and Visualization:
Data is only the beginning. Connecting the dots creates Knowledge. However, it’s the Wisdom which translates insights into Decision making -Linkedin

COMPUTER:
We will use computers during each class meeting. It will be great if you can have a double monitor for hands on exercises like building dashboards and playing with datasets. We will be going through various tools like Excel, Power BI, Alteryx, and UiPath etc.
IN-CLASS ACTIVITIES:
Quiz (Knowledge Check), Group Discussion, Short Recap Presentations. There will be Guest speakers coming in from industry.

PRESENTATIONS and REVIEWS:
There will be one final presentation at the end of the winter session that will get reviewed and scored in addition to the in-class activities.

COURSE OUTLINE:

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<th>Topics</th>
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| Week 1 | Demystify Data Analytics and its connection to the accounting and audit profession | • Demystify Data Analytics  
• Data Analytics skill set that managers look for  
• Overview of an org structure highlighting DA role, workflow, and maturity  
• Bonus: Learn how to set Data Analytics Team vision and Core priorities. (Case Study: Microsoft)  
• Assignment: Read Innovation stories |
| Week 2 | Data Analytics – Identifying the business decision that will benefit from data analytics | • Data Analytics starts with asking the right questions  
• Overview of DAP framework  
• DA and its connection to Accounting and Auditing (The Modern Audit and Continuous Auditing)  
• Examples to show from Industry and Bonus – Microsoft’s large Enterprise agreements finance showcase |
| Week 3-5 | Identify the relevant risk, Perform ETL, and start learning end to end about Power BI | • Explore Sales and Marketing Sample  
• Understand the ETL process, learn how to apply appropriate data analytic techniques, how to summarize your results. We will also cover how to apply visualization techniques, and how to Interpret and share the results with stakeholders.  
• Big focus on Data Analytics using Power BI. This will cover tasks of a Data Analyst like  
  a. Get started with Data analytics  
  b. Prepare data for analysis  
  c. Model data in Power BI  
  d. Visualize Data in Power BI  
  e. Data analysis in Power BI  
  f. Manage workspaces and datasets in Power BI  
• Case: Multiple examples showing different tasks of a data analyst  
• Multiple knowledge checks to assess understanding  
• Tools used: Excel, Power BI  
• Assignment: Start working on building an app for your scenario to present in Week 10 and have 1-3 dashboards in Power BI. |
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| Week 6       | Alteryx Workshop (Guest Speaker: Ian Coe, Sales Engineering Manager, Alteryx) | • Alteryx Workshop and Lab  
• Case: Multiple Scenarios |
| (Feb 11)     |                                                                        |                                                                        |
| Week 7       | UiPath Workshop (Guest Speaker: Kristina Kaldon, Learning Alliances Program Manager) | • UiPath DA demo and hands-on lab  
• Case: Multiple scenarios |
| (Feb 18)     |                                                                        |                                                                        |
| Week 8       | Choose the right tool for Visualization                                | • Gartner’s magic quadrant 2020 for visualization tools -  
Competitive landscape  
• Power BI through hands on tutorials and exercises  
• Assignment: Continue working on building an app for your scenario to present in Week 10 and have 1-3 dashboards in Power BI. |
|              |                                                                        |                                                                        |
| Week 9       | Bonus -Industry Buzzwords-Ready  
The Future of Modern Business: Demystifying Data Science, Machine Learning, BOTS, RPA’s, IoT’s and Artificial Intelligence | We all live in a world of volatility. Only change that’s constant is change. We must learn and adapt to our environment. The tools and technologies that we have available today can solve our problems. In the imagination age, we can collectively imagine and create the future we want to inhabit. For that, we need to understand what is already available today and how can we leverage these technologies to solve our pain points. Let’s understand and demystify together all these buzz words like Data Science, Machine Learning, BOTS, IoT’s, and Artificial Intelligence and understand how our professions as accountants, finance professionals, CFO’s, Partners, and leaders will be impacted by them. |
|              |                                                                        |                                                                        |
| Week 10      | Present Final Project Report to Professional Data Analysts and Leaders -Final Presentation | Students will present their Final data analytics project presentation to a panel of Industry professionals. (Present their App/Dashboard/ and do a 5-minute presentation). |

**After completing this course, you would know**

1. How Data and Analytics play a crucial role in decision making.
2. To be a DA team member or leader in the future by creating your DA goals and aligning them to your organizational mission and vision.
3. How to report out DA results using a visualization tool, Power BI and build powerful dashboards for executive reporting.
4. How Excel and Alteryx can be used for DA (ETL Process)?
5. How to create dashboards to tell a story for effective decision making? This will help students gain skills that they will be able to use in their Data Analytics roles starting day 1.

**GRADING**

Grading will be project based, homework assignments, and in class participation.

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<tr>
<th>Percent</th>
<th>Grade</th>
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<tr>
<td>90%-100%</td>
<td>A</td>
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<tr>
<td>80%-89%</td>
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<td>70-79%</td>
<td>C</td>
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<td>60-69%</td>
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Adjustments may be considered depending upon overall class performance and percentage distribution.

Office of Institutional Equity (Title IX)

Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in educational programs or activities that receive Federal financial assistance. This prohibition includes sexual misconduct, which encompasses sexual harassment and sexual violence. Seattle University remains committed to providing a safe and equitable learning, living, and working environment. Seattle University offers emergency, medical, and other support resources, as well as assistance with safety and support measures, to community members who have experienced or been impacted by sexual misconduct.

Seattle University requires all faculty and staff to notify the University’s Title IX Coordinator if they become aware of any incident of sexual misconduct experienced by a student.

For more information, please visit https://www.seattleu.edu/equity/. If you have any questions or concerns, you may also directly contact the Title IX Coordinator in the Office of Institutional Equity (email: oie@seattleu.edu; phone: 206.296.2824)

Notice on Religious Accommodations

It is the policy of Seattle University to reasonably accommodate students who, due to observance of religious holidays, expect to be absent or endure a significant hardship during certain days of their academic course or program. Please see Policy on Religious Accommodations for Students. (https://www.seattleu.edu/media/policies/Policy-on-Religious-Accommodations-for-Students---FINAL.pdf)

Notice for Students Concerning Disabilities

Seattle University values diverse types of learners and is committed to ensuring that each student is afforded an equal opportunity to participate in learning experiences. For disability and other learning-related needs and accommodations that you have already arranged via Disability Services, please communicate with me during the first week of class through email or Zoom. Should concerns arise at any point in the quarter, please let me know as soon as possible.

If you have, or think you may have, a disability (including an “invisible disability” such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this class, but have not yet arranged support services and/or accommodations, I encourage you to do so through Disability Services staff at DS@seattleu.edu or (206) 296-5740. Disability-based adjustments to course expectations can be arranged only through this process. I am committed to working with you, so please do not hesitate to contact me.

Academic Resources

- Library and Learning Commons (https://www.seattleu.edu/learningcommons/)
  (E.g.: Learning Assistance Programs, Library Research Services, Writing Ctr., Math Lab.)
- Academic Integrity Tutorial (https://www.seattleu.edu/academic-integrity/resources-for-students/)

Academic Policies

- Academic Integrity Policy
- Grading Grievance Policy
- Professional Conduct Policies (program-specific)

You will find these and other policies on the Registrar’s website: https://www.seattleu.edu/redhawk-service-center/academic-policies/