

2022 Intensive Data and Analytics Workshop III
Session Descriptions, Required Software and Data Uploads



Session #	Program Level Basic unless noted below	Session Title	Session Discription	List Software attendees will need to pre-load before the meeting.	List files attendees will need to pre-load before the meeting
1.01		Data Analytics Pathways: Developing an Analytics Mindset across Your Curricula	This session provides easy theoretical and pedagogical frameworks and many examples for how to infuse data analytics skills within and across your accounting courses.	None but we provide Excel datasets for participants to use later.	PPTs
1.02		Introductory Build a Bot Exercises	Learn to use robotic process automation software for two introductory Build a Bot Exercises: 1) easy data entry into a PDF Form and 2) Excel to PDF Automation	UiPath, Adobe Acrobat Reader DC, and Excel. UiPath is only PC compatible unless the Apple user has a Virtual Desktop Infrastructure (VDI).	Bot Experience.zip
1.03		Alteryx 101	just-in-time learning, and create a well-organized workflow using basic tools.	Alteryx, PC only	etlChallengeSQLJoinsData.xlsx, chevisLibrary20220511.csv, sqlJoinsInstructions.pdf, libraryProjectInstructions.pdf
1.04		Hands-On Intro Financial Accounting Analytics Labs!	Ideas for Data Analytics Labs to be used in Intro Financial Accounting.	Excel for Windows (preferred), otherwise Excel for Mac.	Data files from OneDrive
2.01		Hands-on with EYARC Cybersecurity case study, Liberty Data System, using Alteryx	This session will provide a hands-on opportunity to cover the EYARC Cybersecurity case study, Liberty Data Systems, using Alteryx for participants from non-profit, higher education that have obtained an EYARC account.	Preload Alteryx. See case user guide for directions. PC compatible; Apple compatible in Windows environment	Obtain files through EYARC account: 1_Cybersecurity_case_studies_LibertyDataSystems_user_guide.pdf, Cybersecurity_case_studies_LibertyDataSystems.pdf, Cybersecurity_case_studies_LibertyDataSystems_Sample.xlsx, Cybersecurity_case_studies_LibertyDataSystems_PasswordDictionary.csv
2.02		Data Cleaning Projects (ETL) Using Excel, Google Sheets, Tableau, Tableau Prep, Power BI and Alteryx for Intro Accounting	This session is an overview of a new set of projects for introductory accounting that have the student perform data cleaning steps and then build a dashboard with one of three software combinations: Excel or Alteryx + Power BI or Tableau Prep + Tableau. incorporate multiple tools (Excel, SAS, Tableau, Alteryx) into your accounting program, participate either Hands-On or Watch-and-Learn.	N/A	N/A
2.03		Which Data Analytics Tool Should I Use		Optional, Excel, SAS (not essential), Tableau, Alteryx	Excel File: Which Tools Session
2.04		Integrating Data Analytics into the Accounting Curriculum			
3.01		Bene Petit: An Integrated Analytics Case for Managerial Accounting	During this session, we will work through various analytics assignments using a unique and engaging case that ties together most managerial accounting concepts and emphasizes the importance of data in managerial decision making.	Excel, Tableau Desktop, Power BI Desktop	Case background, case requirements and excel data files. Files need to be obtained through EYARC account: 1_Innovation_mindset_case_studies_Process_mining_user_guide.pdf, Innovation_mindset_case_studies_Process_mining_Analyze_the_Process_Case1.pdf, Innovation_mindset_case_studies_Process_mining_Analyze_the_Process_Case2.pdf
3.02		Overview of EYARC Process mining curriculum and hands-on with EYARC Process mining case studies, Analyze the process 1 and 2	This session will provide an overview of EYARC Process mining curriculum and a hands-on opportunity with EYARC Process mining case studies, Analyze the process 1 and 2, using a cloud-based Celonis-built tool (no software license or download required) for participants from non-profit, higher education that have obtained an EYARC account.	No download required; Software available via the cloud through link in case materials. PC and Apple compatible	
3.03	Intermediate	Analytical Process Implications of Standardized Machine Readable Disclosures	Session will discuss analytical process enhancements evolving from the use of standardized machine readable disclosures.	Power Point, Chrome browser	n/a
3.04		Data Analytics for Undergraduate Students	This presentation provides a hands-on demonstration of a case study designed to teach Alteryx to undergraduate students.	Alteryx Designer, PC compatible	Depreciation Tables.xlsx; Fixed Asset List.xlsx, Alteryx Depreciation Case file.docx

4.01	Building Out Your Data Analytics Course Offerings: Ideas for Undergraduate, Graduate and Audit Analytics	Hands-on experience performing data analytics (clustering and building dashboards) using Excel and more advanced data visualization tools (in Tableau and/or Power BI) This session will distil introductory technical aspects of Blockchain into understandable component users can understand, explain and apply using hands-on activities for class.	Excel and Tableau (both compatible with PC and Apple). Power BI is optional (only compatible with PC).	4.01 DA Clustering 4.01 DA Dashboard 1 4.01 DA Dashboard 2
4.02	Blockchain: A Hands-On Workshop			presentation, background reading, guided notes, activities, assessment
4.03	Alteryx: From Zero to Hero - Beginner	This presentation interactively introduces participants to Alteryx and its application in accounting classes. This workshop will provide basic concepts and development skills of RPA using UiPath StudioX and an overview of how RPA is applied to solve problems across various industries and organization departments as well as the free resources available for educators to teach RPA skills in business and/or technical courses. Participants will complete the same exercises connecting to and managing ERP-type data on three different technology applications to understand the power of each tool.	Internet to access websites Alteryx and PowerBI Both are PC compatible.	All files in the Raw Data file folder (1112hi.xls, 1213hi.xls, 1314hi.xls, etc.).
5.01	Preparing your Students for Emerging Technology in Accounting with RPA		PC Compatible only, will need Microsoft Excel and UiPath StudioX	N/A (we will scrape data used)
5.02	Data Analytics Cross-Over Event		Alteryx (PC), Tableau (PC & Apple), optional: MS Access (PC)	Six data files are in the "Data Files to be Downloaded" folder on the session OneDrive
5.03	Bulldog Products: A Beginner Data Analytics Case in Alteryx and CaseWare IDEA	Bulldog Products is a hands-on, beginner-level, data analytics workshop using two software programs, CaseWare IDEA and Alteryx Designer, on transaction-level data. We will walk the audience through a use case that one of the presenters has encountered as a data-analytic and visualization professional in industry.	CaseWare IDEA 11.2.1 or later & Alteryx Designer - Both are Windows x64based programs but are compatible with Apple by using Boot Camp or a Virtual Machine. Free trial version of IDEA is ok for this workshop.	Bulldog Products Part 1 - IDEA.pdf; Bulldog Products Part 2 - Alteryx.pdf; Employee Information.PDF; Employee Information.txt; Purchase Information.txt; Restaurant Information.xlsx
5.04	Converting Raw Data into a Cogent Story – A Tableau Visualization Case from a Professional's Perspective		Tableau Desktop (compatible with both)	One Excel spreadsheet that I will drop in the OneDrive, once I get the link to the folder. 2018BikeRideData_Tutorial.csv BikeStations.csv Divvy_Weather_2018.csv DivvyCase_Tableau_Workbook_Tutorial_Data_05122022.pdf Divvying up the Data Case 05122022.pdf
6.01	An Illustration of "Divvying Up Data: A Data Visualization Case" using Tableau	Participants will appreciate how to 1) implement this case in their accounting information systems or data analytics courses and 2) use Tableau to assess data properties, compute new variables, create visualizations, and join multiple data files.	Tableau (which should be compatible for both PC & Apple)	
6.02	The state of Analytics in Accounting and Auditing, including Analytics Resources from the University of Illinois -- Deloitte Foundation Center for Business Analytics (Audit) Kristina Berg Chernick, Deloitte Foundation Erica Nelson, Deloitte Jessen L. Hobson, University of Illinois at Urbana-Champaign Peer Learning in Accounting Data Analytics: Engaging Students and Developing Professional Skills	A discussion of the state of the art in audit analytics from Deloitte's Global Audit Analytics Leader, and an overview of the free analytics resources available from the University of Illinois-Deloitte Foundation Center for Business Analytics. You will take the role of a student in a new approach to peer learning; the context is audit data analytics - you will offer and receive insights and evaluation from peers.	Part of the class may be done in Python. Thus, attendees may want to be able to edit and run Python code in a Jupyter Notebook (using an .ipynb file) or a Python integrated development environment (IDE) (using a .py file).	Part of the class may be done in Python. The files that will be used in the session will be retrieved during the session from https://www.centerforanalytics.giesbusiness.illinois.edu/ . Participants should register at the site ahead of time since approval can take about 24 hours.
6.03			None. Participants will need access to a browser during the session. Alteryx Designer (most recent version) and Alteryx Intelligence Suite (most recent version) NOTE: You must have the same version for Designer and Intelligence Suite for compatibility. NOTE2: Apple users will need Virtual Machine OR Apple Bootcamp OR Parallels OR similar software to run Alteryx.	Acces Control logfile.csv and Access Control employee.csv
6.04 Intermediate	Using Text Analytics for MD&A Disclosures and Beyond	This case uses text analytics to understand unstructured data.		All materials within pre-conference subfolders for 1) Data Analytics Tools Installation Instructions; 2) Raw Data Files; 3) Consider Printing . . . ; and 4) Teaching Case Materials

7.01	Analyzing Depreciation	We will clean and combine depreciation from five company sites and analyze the information for unusual depreciation items.	Power BI (PC only)	No pre-loaded into Power BI. During the presentation, there are FIVE depreciation Excel files that we will clean and combine and analyze (e.g. Site 1 Depreciation.xlsx, Site 2 Depreciation.xlsx, Site 3 Depreciation.xlsx, etc)
7.02	Advanced Detecting Fraud through Machine Learning/Alteryx's Low Code Approach to Machine Learning	This hand-on session will introduce participants to Machine Learning using Alteryx's Low Code approach. We will discuss and demonstrate how to incorporate data analytics into your cost accounting and management accounting courses.	Alteryx - Including the R Predictive Tools and Intelligence Suite. PC Compatible	FraudDataML.csv All files are Excel data sets loaded into the 7.03 folder on OneDrive
7.03	Hands-On Managerial Accounting Analytics Labs!		Excel; Tableau; PowerBi optional	
7.04	Hands-on with EYARC Cybersecurity case study, Liberty Data System, using Python and Jupyter Notebooks	This session will provide a hands-on opportunity to cover the EYARC Cybersecurity case study, Liberty Data Systems, using Python and Jupyter Notebooks for participants from non-profit, higher education that have obtained an EYARC account.	Preload Python and Jupyter Notebooks or use Google Colaboratory in a web browser. See the instructions for more information. PC and Apple compatible.	Obtain files through EYARC account: 1_Cybersecurity_case_studies_LibertyDataSystems_user_guid e.pdf, Cybersecurity_case_studies_LibertyDataSystems.pdf, Cybersecurity_case_studies_LibertyDataSystems_Sample.xlsx, Cybersecurity_case_studies_LibertyDataSystems_PasswordDictionary.csv
8.01	Using Python to Teach Business Analytics	A hands-on demonstration of using Python to teach data analytics using resources from the University of Illinois-Deloitte Foundation Center for Business Analytics. This presentation interactively progresses participants from intermediate to Alteryx Accounting Heros (such as demonstrating how to troubleshoot workflows and create an auto-grader).	The class will be done in Python. Thus, attendees will need to be able to edit and run Python code in a Jupyter Notebook (using an .ipynb file) or a Python integrated development environment (IDE) (using a .py file). A Jupyter Notebook is a web application for creating and sharing documents that contain code, visualizations, and text. Probably the easiest way to get started with both Python and Jupyter Notebooks is to download Anaconda. This download includes Python and basic Python packages as well as Jupyter Notebooks and other applications for using Python. Another way to view .ipynb files is to use Google Colaboratory. Colabs allows you to write and execute Python in your browser with no configuration needed, free access to GPUs, and easy sharing. A .py file is python code, written in plain text. It can be opened using any file that lets you view text. It is most often created and edited in an integrated development environment (IDE) that allows you to write and run code in an integrated way. There are many IDEs for Python, including Spyder, PyCharm, Visual Code Studio, etc.	The files that will be used in the session will be retrieved during the session from https://www.centerforanalytics.giesbusiness.illinois.edu/ . Participants should register at the site ahead of time since approval can take about 24 hours.
8.02	Alteryx: From Zero to Hero - Intermediate		Alteryx and PowerBI Both are PC compatible.	All files in the Raw Data file folder (1112hi.xls, 1213hi.xls, 1314hi.xls, etc.).
8.03	Intro to Power BI	Learn how to build reports, calculate information, and prepare data with Power BI	Power BI Desktop. PC only.	CANDLESTICK.pbix, KADO DATA DICTIONARY.pdf, KADOITEMS.pbix, HANDOUTS.pdf

8.04	Stop the Lies: Guiding Principles to Avoid Bad Visualizations in Accounting			
9.01	Choose Your Own Adventure: Dashboards, Pivot Tables, ETL, and Data Analytics Projects for Introductory Accounting	This session provides an overview of a variety of data analytics projects suitable for introductory accounting that use Excel, Power BI, or Tableau. Participants will experience the power of Bayesian networks in quantifying audit risk, which AU-C 200.06 defines as "the risk that the auditor expresses an inappropriate opinion when the financial statements are materially misstated."	N/A A 14-day free trial of Agenarisk (PC, Apple, Linux versions) is downloadable from https://www.agenarisk.com/agenarisk-free-trial	N/A
9.02	Quantifying Audit Risk with Bayesian Networks	This hands-on session will instruct attendees on how to use Alteryx and PowerBI to examine firms' effective tax rates, focusing on profitable firms that incur no tax expense to peak students' interest		SAS 143 RMM Estimate.cmpx, Kickback Risk.cmpx
9.03	Using Alteryx for Data Preparation: Evaluating the Effective Tax Rates of Firms on the ITEP List	this tax data analytics case.	Alteryx, PowerBI <u>Please install Anaconda (for Jupyter) and Tableau on your system before the workshop. Anaconda can take up to 30 minutes to install. Both Anaconda and Tableau are PC and Apple compatible. You can download Anaconda here: https://www.anaconda.com/products/distribution You can download Tableau here: https://www.tableau.com/products/desktop/download You can obtain Tableau for Teaching license here: https://www.tableau.com/academic/teaching</u>	ETR Case Data File for Videos.xlsx and ETR Case Data for PowerBI Project.xlsx
10.01 Intermediate	Examining and Visualizing Form AP Data: An Application of Tableau and Python	In this session you will learn how to integrate ETL in Python with Tableau for Data Visualization on the most recent PCAOB FormAP dataset. This session will provide a hands-on opportunity with the EYARC Analytics mindset case study: The 360, using Power BI for participants from non-profit, higher education that have obtained an XBRL database, then briefly analyze the results in Alteryx/RapidMiner.		Please download these files and put them in the same folder on your computer:
10.02	Hands-on with EYARC Analytics mindset case study: The 360, using Power BI		Preload Power BI. See case user guide for directions. PC compatible.	config.ini formap.ipynb dg_formap_dashboard.twbx Obtain files through EYARC account: 1_Analytics_mindset_case_studies_The360_user_guide.pdf; Analytics_mindset_case_studies_The360.pdf;
10.03	Using as Reported, XBRL Data to Investigate Tax Footnote Reconciliation Differences		RapidMiner Studio and/or Alteryx Designer	SQL Queries for XBRL Database
10.04	Active Learning Data Analytics Individual and Group Project	This is an active learning data analytics project.	Excel, Tableau, Power BI, IDEA	All files are loaded in 10.04 folder
11.01	ChicagoLand Popcorn (R) - Examining Online Retailer Nexus Following Wayfair Using Robotics Process Automation	This hands-on session will walk participants how to create bots in an accounting setting, all while covering fundamental programming skills that apply across all data analytics tools and processes. This session will provide an overview of EYARC Blockchain curriculum and a hands-on opportunity with EYARC Digital Assets case studies, using the EY Helix Blockchain Analyzer for Public Networks for Students (a cloud-based Spotfire-built tool (no software license or download required)) for participants from non-profit, higher education that have obtained an EYARC account.	Automation Anywhere's A360 PC compatible.	ChicagoLandPopcorn Sales January 2021.txt
11.02	Overview of EYARC Blockchain curriculum and hands-on with EYARC Digital Assets case study	This session will help accountants understand GPS (Global Positioning System) technology and as a valuable form of non-financial business data. We will discuss the new SEC XBRL API to access XBRL data, and using hands-on examples demonstrate how to extract financial statement fundamentals and footnotes' text data from XBRL data.	No download; Software available via the cloud through link in case materials. PC and Apple compatible.	Files obtained through EYARC account: 1_Analytics_mindset_case_studies_Digital_assets_user_guide.pdf; Analytics_mindset_case_studies_Digital_assets.pdf
11.03	Geographic Data Analysis of Real-Life Data: Metro Bike Business Decisions		Microsoft Excel, PowerBI	Metro-Bike_transit-GPS_AAA-Intens_2022.xlsx; Metro-Bike_transit-GPS_AAA-Intens_slides.pptx
11.04	Using Python to Extract Numerical and Textual Content from XBRL Financial Reports		Web Browser, Microsoft Excel	None
12.01	A Patterns-Based Approach to Teaching Data Preparation with Power Query	Learn how to detect and correct twenty common data issues.	Power BI Desktop. PC Only	Handouts (pdf), data files (excel), solution files (Power BI (pbix), extra files (word)

12.02	A Deep Dive into ETL Using Excel, Google Sheets, Tableau, Tableau Prep, Power BI, and Alteryx for Intro Accounting	This session allows participants to experience a data cleaning and visualization project for introductory accounting using Excel; Alteryx + Power BI; and Tableau Prep + Tableau.	Excel, Alteryx (Windows only), Power BI (Windows only), Tableau, Tableau Prep	Excel tutorial file; Alteryx tutorial file; Tableau tutorial file, Excel tutorial notes (Part 1 and 2); Alteryx tutorial notes (Part 1 and 2); Tableau tutorial notes (Part 1 and 2) This session will inform, guide, and support sharing and learning from each other about the professionally relevant module(s) or entire course developments you are planning to implement from what you have learned at the conference, so that your ideas do not get lost when you get back home.
12.03	Using Backward Design, Integrate Data Analytics, CPA Evolution and AACSB Standards into Your Course	The session resources posted on the OneDrive: PPTs, Course Planning tool, Bloom's Taxonomy, QualityCoursePoster, Module and Course Level Objective Notes In this session, participants will work through an auditing scenario with client data and a prior year Alteryx workflow, which will need to be adapted to system changes.	MS Office Word and Excel and PPT	
12.04	Using Alteryx for Data Cleansing and Risk Assessment: A Classroom Case	In this session, you will learn firsthand the pros and cons of assigning the same project in multiple software platforms to build students' software agility.	Alteryx, which is not compatible with Mac	All the Files in the "What Students Receive" directory
13.01 Intermediate	Developing Software Agility By Using Multiple Platforms		Excel (PC&Mac), Tableau (PC&Mac), Power BI (PC only)	sbaData2019.xlsx
13.02 Intermediate	Monte Carlo Valuation Engagement with Excel, R, and Python	We will develop Monte Carlo simulations to model uncertain inputs with known probability distributions in Excel, R, and Python. Participants will complete an instructional case where they will first apply their skills in data cleansing and data manipulation to load and join datasets from Computstat and Audit Analytics to analyze the accuracy of the Altman Z-score to predict bankruptcy and then investigate a better prediction model.	R Studio, Anaconda Navigator for Python	Please just download R Studio and Anaconda Navigator for Python before the meeting. You may want to print the guides for the labs.
13.03	Bankruptcy Prediction Modeling Using Alteryx Stop the Lies: Guiding Principles to Avoid Bad Visualizations in Accounting (Repeat)		Alteryx	Annual_Fundamentals.csv and Bankruptcy_Notifications.csv
13.04				
14.01	From Data Cleaning to Data Presentation—An Alteryx and Data Visualization	Learn how to clean data downloaded from a city data portal and then use data visualization to perform a payroll analysis. The purpose of this hands-on exercise is to develop a tool that can help managers better understand their sustainability performance. The outcomes of the exercise are: (1) a set of Tableau worksheets with basic visualizations, (2) a dashboard with a radar chart, a set of filters, and a summary stakeholder value score based on the performance on the different KPIs.	Alteryx designer, Tableau Desktop	Current_Employee_Names_Salaries_and_Position_Titles.csv, Employee_Overtime_and_Supplemental_Earnings_2021, Crime_-_2021, Police_Sentiment_Scores. City of Chicago Payroll and Overtime Analysis.docx, City of Chicago Police Payroll Analysis – Guided Analysis
14.02 Intermediate	Data Visualization of Sustainability Indicators with Radar Charts in Tableau		Microsoft Excel and Tableau Desktop (Tableau Desktop runs on Windows and Mac PCs)	SustainabilityKPIs - dataset.xlsx and Background_radar_chart.jpg
14.03	Learning Text Mining and Natural Language Processing by Analyzing Textual Data from 126 Accounting Journals	Learning how to use JMP 16 Pro for Text Mining and Natural Language Processing. Bring your favorite Excel or Access based case and discuss how you can extend its life by infusing it with new technology while viewing a sample of a modified case.	JMP Statistical Software: JMP 16 Pro	Preload Taxreferences JMP File on your computer
15.01	Reuse and Recycle Cases with New Technologies		Alteryx - PC only, Apple with virtual machine The software is in the Cloud. All you need is a Chrome browser and MS Excel. PC, Apple, and UNIX OS are all ok. Follow the instructions on the Technical Requirements document in the 15.02 folder in OneDrive to gain access to the SAP Analytics Cloud academic tenant prior to the session.	Sample P-Card File
15.02	Predictive Analysis with SAP Analytics Cloud	The presentation is an introduction to the machine learning capabilities of SAP Analytics Cloud.		Not required, but recommended to download the instructions for the exercise and two Excel data files. These files will also be available in a folder in SAP Analytics Cloud.

