BUSI 2401A: Introduction to Data Analytics

SUMMER 2025

Instructor	Ali Nazari
Email Address	alinazari@cunet.carleton.ca
Class Times	Monday & Wednesday 2:35pm – 5:25pm
Modality	In person
Zoom Office Hours	Tuesday 1:00pm – 2:00pm

Pre-Requisites & Preclusions:

Prerequisites: BUSI 1401

Course Description/Instructor's Statement

Carleton Calendar Description (Find at https://calendar.carleton.ca/undergrad/courses/BUSI/)
This course prepares students to gather, manipulate, and clean data from a variety of sources within a programming environment. Students will be introduced to visual data exploration and the deployment of data-driven visual storytelling. Topics include: APIs, Data Science Programming, SQL, Relational/NoSQL databases, data visualization.

Course Learning Objectives:

1. Understand the different types of analytics and how they are applied to inform & solve complex business problems
2. Understand and implement the fundamentals of functional programming using a current programming language & environment
3. Ability to manipulate & clean different types of data within a programming environment
4. Ability to perform preliminary data analysis within a programming environment
5. Understand the fundamentals of visual data discovery including the ability to select appropriate chart types & representation & identify trends & distribution
6. Understand the fundamentals of visual data deployment including the ability to select & use pre-attentive attributes, design & implement dashboards & effectively apply storytelling principles

Required/Optional Materials & Prices

Technologies:

- Windows or Mac laptop (for in-class activities)
- Python (installed automatically with Anaconda)
- Spyder Python IDE (installed automatically with Anaconda)
- Jupyter (Lab) Notebook (installed automatically with Anaconda)
- Tableau Desktop

I would recommend installing Anaconda on your machine. It is available here: ***https://www.anaconda.com/***. If you can't, for whatever reason, Spyder and Jupyter are available through VDI. Tableau you must install on your own machine. It is not available through VDI.

Readings:

Primary Reference **| 0$ Free Online**
Runestone Academy
Downey, A., Elkner, J., Severance, C. and B. Ericson et al. (2021). Python for Everybody – Interactive Edition.

Secondary References **| 0$ Free Online**
Runestone Academy
Miller, B., Boggs, J., and J.L. Pearce (2021). How to Think like a Data Scientist. Second Edition.

Other | **0$ Free Online**

- Wickham, H. . (2014). Tidy Data. *Journal of Statistical Software*, *59*(10), 1–23.
- Ranjan, J. & C. Foropon (2021). Big Data Analytics in Building the Competitive Intelligence of Organizations. International Journal of Information Management. 56,
- Raghupathi, W., Raghupathi, V. (2021). Contemporary Business Analytics: An Overview. Data, 6(86).*Students are not required to purchase textbooks or other learning materials for this course.*

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Grading Scheme

In Class Exercises (~9 ICE)	20%
A1 (Python)	10%
A2 (Pandas)	15%
A3 (Visualization)	10%
Midterm	20%
Final Exam	25%
TOTAL	100%

Important Dates to Note

Assignment 1	Wednesday July 23rd
Midterm	Outside of Class Time - TBD
Assignment 2	Wednesday August 6th
Assignment 3	Wednesday August 13th
Final Exam	Outside of Class Time - TBD

University Academic Calendar: https://calendar.carleton.ca/academicyear/

Policies & Accommodations

https://students.carleton.ca/course-outline/
https://carleton.ca/pmc/current-students/academic-accommodations/

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