DATA 301
Introduction to Data Analytics
Course Summary

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Data Analytics

Data analytics is the processing of data to yield useful insights or knowledge.

- Data processing involves finding, loading, cleaning, manipulating, transforming, modeling, and visualizing the data.
- The knowledge may be used for scientific discovery, business decision-making, or a variety of other applications.
- Vital in a "data-driven" world with larger and more critical data sets.

A ***data analyst*** is a person who uses tools and applications to transform raw data into a form that will be useful.

- Data analyst jobs are projected to be one of the top jobs over the next 10 years, and this course has provided training in the skills needed for those jobs.

Skills and Capabilities

Skills are tools, software, and techniques that you can use **today** to solve your problems.

- Excel, Excel VBA, SQL/databases, command line, Python and Python libraries for data analysis/visualization, R, GIS (Google Maps), Tableau

Capabilities and ***concepts*** are fundamental principles and knowledge that applies to many situations. They are the building blocks of future learning.

- programming concepts (Python), data representation/metadata, thinking algorithmically, designing, manipulating and cleaning data, querying and filtering data, statistical analysis, visualizing information

Course Summary

The course goal was to:

Understand data analytics and be able to apply data analysis to data sets using a variety of software tools and techniques

We developed a variety of skills and capabilities and applied them to scientific and business data sets.

The most exciting aspect of data analytics is discovering and presenting useful data/information that can have an impact on business, society, etc. You have the ability and skill set to perform data analysis.

Putting it all together … Going Forward

This course has started you on the path of data analytics.

Computer systems and technology ***will*** change (the skills), but it is the ***attitude*** and the ***concepts*** that are most important.

How much information in the course will you remember?

How much do you *need* to remember to apply the concepts?

As an experienced data analyst, you can:

- Solve real-world problems on data sets using skills and techniques learned.
- Learn and use new systems with confidence by applying gained knowledge, experience, and fundamental concepts.
- Critically evaluate data analysis done by others and determine when and how to apply tools for your own data analysis problems.

Next Steps

At UBC:

- COSC 101 (Digital Citizenship), COSC 122 (Computer Fluency), COSC 123 (Computer Creativity), COSC 111/121 (Java), COSC 304 (DB), COSC 341 (HCI)
- Stats related: GEOG 271/GEOG 272, BIOL 202, HMKN 205, PSYO 270/271, PSYO 372/373, STAT 230, Data Science program
- VISA 108 (Media studies), MGMT 350 (IT Mgmt.), BIOL 420 (Bioinformatics), GEOG 370 (GIS)
- New Masters of Data Analytics (2018) and follow-on to DATA 301 (future).

Online:

- Coursera and EdX have several courses on data analytics and R.

The best next step is to apply your knowledge to real-world problems.

Go analyze some data!

Thank you for a great course!

Good luck on the exam!