

The Hong Kong University of Science and Technology
Department of Accounting
ACCT 4710 – Data Analytics and Applications in Accounting
Fall 2023
September 1, 2023 – November 30, 2023
L1: Monday 3:00 pm – 4:20 pm / Friday 10:30 am – 11:50 am
L2: Monday 4:30 pm – 5:50 pm / Friday 12:00 pm – 1:20 pm

Instructor: Tony Cho

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Course Description:

Data has become ubiquitous and essential for many individuals. Investors, managers, and accountants now have access to a myriad of data from financial statements to social media posts that empower them in their decision-making. To understand this implication, this course aims to equip students with an understanding of data analytic thinking and skills to tackle accounting and business problems through hands-on applications.

The course begins by grasping the concept of data analysis. We explore what data analysis and science are and why they are needed. We then cover different tools and techniques to acquire, validate, interact, and analyze the data. The course also emphasizes the importance of visualizing an analysis. The course probes into recent developments such as eXtensible Business Reporting Language (XBRL) and textual analysis. The course synthesizes and applies data analytical skills to accounting and business problems.

Materials:

- For this course, there is no required textbook.
- Excel, SQL, and R are either offered by the HKUST for free or an open-source program.
- An academic license for Tableau can be activated for free here:
 - <https://www.tableau.com/academic/students>
- All lecture slides will be uploaded to Canvas.

Grading:

Class Participation	10%
Chapter Assignments	30%
Midterm Exam	30%
Final Project	30%

I reserve the right to adjust your final grade based on your level of participation and your professionalism in class. Each component of the class is discussed below in detail.

Preparation:

In order to succeed in this class, you are strongly recommended to follow along each lecture by bringing your own laptop with software already installed. A portion of class time will be designated to a collaborative work session during which students as a group will interact to solve and discuss problems.

Class Participation:

Although class lectures will be recorded and be available on cloud, students are expected to attend class in-person. Active class participation is expected and will constitute your final grade. I welcome any questions and ideas in class as we strive for an inclusive environment where you feel comfortable expressing your thoughts.

Homework:

There will be four homework assignments to be submitted through Canvas. You are welcome to discuss and work on the assignments with your classmates. However, please submit your own work. Late homework will not be accepted.

Exam:

There will be a midterm exam. It will be closed-book and take place in-class.

Final Project:

There will be a final project. Students, in groups of 4-6, will analyze a dataset and present their findings during the last two class sessions.

Class Recordings:

Class lectures will be recorded and be available on Canvas.

Academic Integrity:

Integrity is critical to the learning process and to all that we do here at the HKUST. As members of our community, all students agree to abide by the Academic Honor Code, which includes a commitment to:

- Observe and uphold the highest standards of academic integrity and honesty in all their work throughout their programs of study.
- Help maintain the academic reputation of HKUST in its academic endeavors.

As set forth in the Code, sanctions will be imposed if students are found to have violated the regulations governing academic integrity and honesty. The Academic Honor Code can be found here: [Academic Honor Code and Academic Integrity | HKUST - Academic Registry](#)

General Conduct & Behavior:

Students are also expected to maintain and abide by the highest standards of professional conduct and behavior. No misconduct in any form will be tolerated. Please familiarize yourself with the regulations for student conduct and academic integrity ([Regulations for Student Conduct and Academic Integrity | HKUST - Academic Registry](#))

Tentative Course Schedule

Dates	Topics	HW Due
Sep. 1	Introductory Concepts	
Sep. 4		
Sep. 8	Getting Started with Analytics and Excel	
Sep. 11		
Sep. 15	Relational Databases and SQL	HW 1
Sep. 18		
Sep. 22		
Sep. 25	Visual Analytics and Tableau	HW 2
Sep. 29		
Oct. 6	Statistical Programming, AI, and R	
Oct. 9		
Oct. 13		HW 3
Oct. 20	Statistical Programming II	
Oct. 27		HW 4
Oct. 30	Midterm Exam	
Nov. 3	Text Analytics, Big Data, and XBRL	
Nov. 6		
Nov. 10		
Nov. 13	Applications of Data Analytics in Accounting	
Nov. 17		
Nov. 20	Group Work on Final Projects	
Nov. 24	Final Project Presentations	
Nov. 27		