

Analytics for the Broad Accounting Function

GS/MSMG6120 3.0CR

FALL 2025

YORK UNIVERSITY

Course Information

[Course eClass site](#)

Teaching Team

Please note: You need to be registered and have a York Passport ID for site access.

Class Time, Location and Instructor

Section	Day	Meeting Time	Location	Course Director
A	Monday	7:00pm-10:00pm	MK 5035	Zia Babar Gary Huang Keith Yuen

Instructor Contact Info

****Please include “MSMG6170” at the beginning of the email subject line***

Instructor	Email
Zia Babar	babarz@yorku.ca
Gary Huang	ghuang1@yorku.ca
Keith Yuen	keithy@yorku.ca

Required Course Materials

Required Resources: Weekly readings will be posted to the course eClass site.

Optional Resources:

There is no prescribed textbook for this course. Any good data science book would suffice. Below are some suggested optional resources:

- › Data Science for Business Analytics by G. Shmueli, P.C. Bruce, I. Yahav, N.R. Patel and KC Lichtendahl (referred as DS for BA)
- › Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking by Foster Provost, Tom Fawcett (referred to DSforB)
- › A Guide to Business Statistics by David M. McEvoy (referred to GuidetoBS)
- › Storytelling with Data: A Data Visualization Guide for Business Professionals by Cole Nussbaumer Knaflic (referred to StoryData)
- Predictive Analytics and Data Mining: Concepts and Practice with RapidMiner by Vijay Kotu, Bala Deshpande (referred RapidMinerBook)

Land Acknowledgment

York University recognizes that many Indigenous Nations have longstanding relationships with the territories upon which York University campuses are located that precede the establishment of York University. York University acknowledges its presence on the traditional territory of many Indigenous Nations. The area known as Tkaronto has been taken care of by the Anishinabek Nation, the Haudenosaunee Confederacy, and the Huron-Wendat. It is now home to many First Nation, Inuit, and Métis communities. We acknowledge the current treaty holders, the Mississaugas of the Credit First Nation. This territory is subject of the Dish with One Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region.

Course Overview

Course Description

The profession of accounting has always required an analytical mindset, with accountants having to use ever-evolving techniques - from pencil-and-paper and calculators, to accounting software and analytical applications - to perform complicated mathematical and accounting calculations. The focus of the course is to expose students to tools, techniques, and software applications (analytics) used by accounting professionals to add value in organizations.

This course is designed to introduce students to the meaning of analytics in the accounting and finance functions of middle size to large organizations. Through this practical and hands-on course, students will gain an understanding of the fundamentals of analytics as they are used and applied to the broad accounting and finance function of organizations. In this course, students will get an understanding on visualizing, preparing, and analyzing accounting data using data visualization tools.

Further, students will learn about various techniques from business statistics and data analytics being used for accounting analytics. Finally, students will be introduced to practical applications of accounting analytics being used in organizations.

Course Format and Organization

COURSE EVALUATION

Grades are a measure of the performance of a student in individual courses. Each student shall be judged on the basis of how well she or he has command of the course materials.

Class Participation	Ongoing	15%
In-Class Activities	Ongoing	15%
Assignment 1: Exploratory Data Analysis	Sat Oct 4, 11:59pm	15%
Assignment 2: Statistical Analysis	Sat Nov 8, 11:59pm	20%
Assignment 3: Advanced Data Analytical Methods and In-Class Presentation	Class 12 (presentation) Fri Dec 5, 11:59pm (paper)	10% 25%
Total		100%

***Logistics for assessments will be posted on the course website closer to the assessment date.*

LECTURES

Attending class lectures is essential to help you better understand class materials and provide you chances to ask course directors course-related questions face to face.

CLASS PARTICIPATION

Class engagement and participation in class is important to your understanding of the material. Discussion is an essential part of learning, and it is also the most interesting way to conduct a class. In addition, class participation will enhance your presentation and communication skills, which will help you in recruiting and in your career. The participation grade will be determined by the quantity and quality of your participation. You will not be penalized for wrong answers to the questions raised in class. Remember, attendance does not provide participation marks. If you attend and do not participate, your participation mark will be very low. Additional information will be discussed in the first week of class.

IN-CLASS ACTIVITIES

In various classes, practical use cases will be introduced, and students will be expected to solve and submit their solutions within the same class period. The successful completion and submission of these use cases will directly contribute to a student's in-class engagement grade. Note, these use cases are not going to be individually graded (i.e. assigned a letter grade) but rather, contribute towards the in-class activity grading.

ASSIGNMENTS AND IN-CLASS PRESENTATION

Details will be announced in class and posted on the course announcements. Assignments may be based on exercises and problems from the assigned textbook chapters and lectures.

Late submissions will not be accepted and failure to successfully complete and submit your homework before the deadline will result in a mark of zero.

BONUS

At the course director's discretion, students in this course may receive a 1% bonus if 80% or more of them complete the course evaluation. The course director will explain the importance of evaluations and provide time in class for completing the evaluation.

Technical Requirements

This course has an extensive computer interface, and you will need access to a multimedia computer with a high-speed Internet connection. The most recent versions of Adobe Reader and Apple QuickTime are required to view course materials, available by free download from [Adobe](#) and [QuickTime](#), respectively. A computer and speakers (or headphones) will be required to read and listen to the recorded material that complements the text. 'Adobe Reader' and 'QuickTime' are needed to view the multimedia clips that illustrate and explain the concepts. There are free computer labs on campus for registered students who do not possess these computing resources. Campus computers do not have speakers, so you will have to supply your own headphones.

Here are some useful links for student computing information, resources, and help:

- › [Student Guide to eClass](#)
- › [Zoom@YorkU Best Practices](#)
- › [Zoom@YorkU User Reference Guide](#)
- › [University Information Technology \(UIT\) Student Services](#)
- › [Student Guide to eLearning at York University](#)

To determine Internet connection and speed, there are online tests, such as [Speedtest](#), that can be run. If you need technical assistance, please consult the [University Information Technology \(UIT\) Student Services](#) web page. For more specific assistance, please write to askit@yorku.ca.

Contact Information

All computing issues - contact: helpdesk@yorku.ca

All administrative questions, textbook materials, and chapter problems – contact the Course Director. Course Directors answer all administrative questions and questions related to the course materials. If you want help with a problem, please email it to your course director. It is important that your email be properly labeled. Make sure you send your message from your yorku.ca email account. For security reasons, we might not respond to Gmail/Hotmail etc. Make sure to include your name, student number, and section number in all your emails. This course has many students, it is important for you to follow the email protocol. Messages that do not follow the above email protocol might be returned to you asking for re-submission or might be recognized as junk mail and will not be addressed.

Course Website

All course materials are contained on the eClass website under the course code MSMG6120. The website has restricted access; you will have to log in with your York Passport account.

The website contains:

- This course outline
- Announcements on all important matters in the course (check these often)
- Lecture slides and course notes
- Assessment information

Grading System

Grades will be awarded for every course in which a student is enrolled in accordance with the following system. The letter grade system is the fundamental system of assessment of course performance in graduate programs at York University. In courses where percentages are used as a means of reporting grades on individual pieces of work, the following conversion table is to be used in converting percentage grades to letter grades, unless alternative provisions for scaling and/or conversion are announced to students in writing within the first two weeks of classes.

The percentages indicated are not part of the official grading scheme and are meant only to be used as guidelines.

GRADE	PERCENT RANGE	DESCRIPTION
A+	Exceptional	90 - 100%
A	Excellent	85 - 89%

GRADE	PERCENT RANGE	DESCRIPTION
A-	High	80 - 84%
B+	Highly Satisfactory	75 - 79%
B	Satisfactory	70 - 74%
C	Conditional	60 - 69%
F	Failure	0 - 59%
I	Incomplete	N/A

Reappraisals

Students may, with sufficient academic grounds, request that a final grade in a course be reappraised (which may mean the review of specific pieces of tangible work). Non-academic grounds are not relevant for grade reappraisals; in such cases, students are advised to petition to their home Faculty. Students are normally expected to first contact the course director to discuss the grade received and to request that their tangible work be reviewed. Tangible work may include written, graphic, digitized, modeled, video recording or audio recording formats, but not oral work. Students need to be aware that a request for a grade reappraisal may result in the original grade being raised, lowered or confirmed. For reappraisal procedures and information, please visit the Office of the Registrar site at: [Grade Reappraisal Principles](#).

How to Use Citations

Here are some examples of citation format students should use along with the available resources to support research and citation:

- › [SPARK Student Papers & Academic Research Kit](#)
- › [Chicago Style Overview](#), YorkU Libraries
- › [MLA Style Overview](#), YorkU Libraries
- › [APA Style Overview](#), YorkU Libraries
- › [Drop-in Research Support](#), YorkU Libraries
- › [Writing Centre](#)

Course Policies

All students are expected to familiarize themselves with the following information:

- › [Student Rights & Responsibilities](#)
- › [Academic Accommodation for Students with Disabilities](#)

Please also review the following course policies:

Academic Integrity

In this course, we strive to maintain academic honesty to the highest extent possible. Please familiarize yourself with the meaning of academic integrity by completing [SPARK's Academic Integrity module](#) at the beginning of the course. Breaches of academic honesty range from cheating to plagiarism (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.). All instances of academic dishonesty in this course will be reported to the appropriate University authorities and can be punishable according to the [Senate Policy on Academic Honesty](#).

The Faculty of Liberal Arts and Professional Studies considers breaches of the Senate Policy on Academic Honesty to be serious matters. The Senate Policy on Academic Honesty is an affirmation and clarification for members of the University of the general obligation to maintain the highest standards of academic honesty. As a clear sense of academic honesty and responsibility is fundamental to good scholarship, the policy recognizes the general responsibility of all faculty members to foster acceptable standards of academic conduct and of the student to be mindful of and abide by such standards. Suspected breaches of academic honesty will be investigated, and charges shall be laid if reasonable and probable grounds exist. You may also study further on the topic of academic integrity via the PDF document on eClass, *Fundamental Values of Academic Integrity*.

Turnitin

To promote academic integrity in this course, students will normally be required to submit their written assignments to Turnitin (via the course's eClass site) for a review of textual similarities and the detection of possible plagiarism. In so doing, students will allow their material to be included as source documents in the Turnitin.com reference database, where they will be used only for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin service are described on the Turnitin.com website.

York students may opt out of using Turnitin. If you wish to opt out, you should contact your instructor as soon as possible.

Accessibility

While all individuals are expected to satisfy the requirements of their program of study and to aspire to achieve excellence, the University recognizes that persons with disabilities may require reasonable accommodation to enable them to perform at their best. The University encourages students with disabilities to register with [Student Accessibility Services](#) to discuss their accommodation needs as early as possible in the term to establish the recommended

academic accommodations that will be communicated to Course Directors through their Letter of Accommodation (LOA).

Please let your instructor know as early as possible in the term if you anticipate requiring academic accommodation so that we can discuss how to consider your accommodation needs within the context of this course. Sufficient notice is needed so that reasonable steps for accommodation can be discussed. Accommodations for tests/exams normally require three (3) weeks (or 21 days) before the scheduled test/exam to arrange.

RELIGIOUS OBSERVANCE ACCOMMODATION

York University is committed to respecting the religious beliefs and practices of all members of the community, and making reasonable and appropriate [accommodations to adherents for observances of special significance](#). Should any of the dates specified in this syllabus for course examinations, tests, or deadlines conflict with a date of religious significance, please contact the instructor within the first three (3) weeks of class. If the date falls within the formal examination periods, you must complete and submit a [Religious Accommodation for Examination Form](#) at least three (3) weeks before the start of the exam period.

Intellectual Property

Course materials are designed for use as part of this particular course at York University and are the intellectual property of the instructor unless otherwise stated. Third-party copyrighted materials (such as book chapters, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian copyright law. Students may not publish, post on an Internet site, sell, or otherwise distribute any course materials or work without the instructor's express permission. Course materials should only be used by students enrolled in this course.

Copying this material for distribution (e.g., uploading material to a commercial third-party website) may lead to a charge of misconduct according to York's [Code of Student Rights and Responsibilities](#), the Senate Policy on Academic Honesty, and/or legal consequences for copyright violations.

Student Conduct in the Learning Environment

York University is committed to fostering teaching and learning environments that are free of disruptive and/or harassing behaviour, are physically safe, and conducive to effective teaching and learning. Students and instructors are expected to maintain a professional relationship characterized by courtesy, civility, and mutual respect and to refrain from actions disruptive to such a relationship. Individuals who fail to adhere to such standards and who violate University or public law may be subject to disciplinary action by the University.

For more information, see the policies on [Disruptive and/or Harassing Behaviour in Academic Situations](#) and [Student Conduct and Responsibilities](#), as well as the [Code of Student Rights & Responsibilities](#).

Netiquette for eClass and Online Learning

Students and instructors have a joint responsibility to create and maintain a welcoming and inclusive learning environment. All students are expected to conduct themselves in accordance with the [Code of Student Rights and Responsibilities](#). Please review and familiarize yourself with behaviours that support “netiquette” in virtual classrooms by consulting the [Student Guide to eLearning](#).

Health and Safety

All York students and instructors share responsibility for the safety and well-being of the community while on York's campuses. Please continue to check [YUBetter Together](#) for the latest information on health and safety.

Student Support and Resources

To help you succeed academically, York University offers a wide range of resources and services. Everything from writing workshops and peer mentorship to wellness support and career guidance is available to fulfill our LA&PS students' needs. Explore the links below to access these on-campus resources:

- › [Academic Advising](#) is available to provide students support and guidance in making academic decisions and goals.
- › [Student Accessibility Services](#) are available for support and accessibility accommodation when required.
- › [Student Counselling, Health & Wellbeing](#) offers workshops, resources, and counselling to support your academic success.
- › [Peer-Assisted Study Sessions \(PASS\) Program](#) provides student study sessions for students to collaborate and enhance their understanding of course content in certain courses.
- › [Student Numeracy Assistance Centre at Keele \(SNACK\)](#) supports students in courses involving math, stats, and Excel.
- › [The Writing Centre](#) provides multiple avenues of writing-based support including drop-in sessions, one-to-one appointments, a Multilingual Studio, and an Accessibility Specialist.
- › [ESL Open Learning Centre \(OLC\)](#) supports students with building proficiency in reading, writing, and speaking English.
- › [Learning Skills Services](#) provides tips for time management, effective study and learning habits, keeping up with coursework, and other learning-related supports.

- › [Learning Commons](#) provides links to supports for time management, writing, study skills, preparing for exams, and other learning-related resources.
- › [Roadmap to Student Success](#) provides students with timely and targeted resources to help them achieve academic, personal, and professional success.
- › [Office of Student Community Relations \(OSCR\)](#) is responsible for administering the [Code of Student Rights & Responsibilities](#) and provides critical incident support.
- › [goSAFE](#) is staffed by York students and can accompany York community members to and from any on-campus location, such as the Village Shuttle pick-up hub, parking lots, bus stops, or residences.

For a full list of academic, wellness, and campus resources visit [Student Support & Resources](#).

MSMG6120 WEEKLY CLASS SCHEDULE (Subject to revision)

Weekly readings will be posted to the course eClass site. Supplemental readings* are an optional resource for those interested in becoming more familiar with the topic before class. Note: The following schedule and reading material is tentative and may change during the term. Readings may be removed, merged or new ones assigned. Any changes to readings will be assigned and posted prior to each class.

Class	Date	Topic	*Supplemental Readings	Notes
1	Sep 8	The Changing Role of Analytics in Accounting	See eClass	
2	Sep 15	Visualizing Data	DS for BA Ch 1, 2	In-class use case
3	Sep 22	Exploratory Data Analysis	DS for BA Ch 3, 4	
4	Sep 29	Descriptive and Business Statistics	See eClass	Assignment 1 Due Sat Oct 4, 11:59pm; In-class use case
5	Oct 6	Scenario and Sensitivity Analysis	DS for BA Ch 5	
Oct 11-17: No Classes (Reading Week)				
6	Oct 20	Risk Scoring & Fraud Detection using Classification	DS for BA Ch 6, 7	In-class use case

Class	Date	Topic	*Supplemental Readings	Notes
7	Oct 27	Segmenting Financial Data using Clustering	DS for BA Ch 15	
8	Nov 3	Forecasting Financial Performance using Regression	DS for BA Ch 16, 17	Assignment 2 Due Sat Nov 8, 11:59pm; In-class use case
9	Nov 10	Trend and Pattern Based Recognition using AI/ML	See eClass	In-class use case
10	Nov 17	AI in Accounting with Generative AI	See eClass	In-class use case
11	Nov 24	Simulation and Risk Analytics	See eClass	
12	Dec 1	Final Presentations		Assignment 3 Due Fri Dec 5, 11:59pm

Visit [Important Dates](#) for drop dates.