

Data Analytics Consulting (SS 4844G/9544 & MDA 9144)

Course Outline (Winter 2026)

1. Course Information

Course Information

Course Name: Data Analytics Consulting (SS 4844G/9544 & MDA 9144)

Lecture Hours: Monday, Wednesday, 3:30 – 5:30 PM

Lecture Location: WSC 240

Course Format

Lectures in person

Prerequisites

- Students must have a background in data modelling and inference, including statistical/model-based and algorithmic methods, and the ability to analyze data using R. Additional course-specific prerequisites are as follows:
- SS4844: SS3859A/B with at least 60%. Registration in the fourth year of an Honours Specialization in Data Science/Statistics module.
- SS9544: Enrollment in a Dept of Statistical & Actuarial Sciences graduate program.
- MDA9144: Enrollment in the Master of Data Analytics program.
- Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course, and it will be deleted from your record. This decision may not be appealed. You will not receive an adjustment to your fees if you are dropped from a course for failing to meet the necessary prerequisites.

2. Instructor Information

Instructor: Dr. Ropo Ebenezer Ogunsakin

Email*: rogunsak@uwo.ca

Office: WSC 214A

Office Hours:

- Monday: 5:30 PM to 6:30 PM
- Wednesday: 5:30 PM to 6:30 PM

How to Contact Me: Email is the best way to contact me. Students must use their Western (@uwo.ca) email addresses when contacting me—general timeline to respond to emails: within one business day. Meetings outside of office hours are strictly by appointment. Please propose at least two alternative meeting times, listed in order of preference. The number of appointments available outside office hours may be limited and will be scheduled on a first-come, first-served basis.

3. Course Description, Learning Outcomes, and Delivery Mode

Course Description: An introduction to data analytics consulting in the context of Problem, Plan, Data, Analysis, and Conclusion, including interpersonal techniques; communication; teamwork; project management; copyright, intellectual property, compensation, and negotiation; robust data analysis; and ethics. Most lectures will be delivered in a seminar-style format, with active student participation.

Course-Level Learning Outcomes

Upon successful completion of this course, students will be able to:

- Synthesise domain-specific knowledge and skills to solve complex problems within a data analytics context using the latest trends in data analytics.
- Apply design thinking in data analytics solution development
- Create reports, visualizations, and presentations to deliver analysis results in both technical and non-technical language.
- Use analytics on cases to assess and predict short- and long-term business impacts in the industry or any institutions.
- An understanding of the components to conduct a robust data analysis and the ability to document an analysis so that it is reproducible.
- To apply, or develop and implement, appropriate analytic tools and techniques to resolve complex data-scientific problems in various sectors and domains, and be able to communicate findings and insights gained using appropriate visualisation tools.
- Students will learn how to include ethical issues in data analytics consulting projects by looking at data governance, model fairness, and stakeholder impact, and by making responsible, actionable suggestions.
- Developed other professional skills that are desirable traits of a successful data analytics professional, such as project management, effectively participating in meetings in a variety of in-person and electronic settings, non-verbal communication, compensation, and negotiation.

Important Dates:	Jan. 5	Classes Start
	Feb. 14 – 22	Reading Week
	Apr. 9	Classes End
	Apr.10-11	Study Day(s)
	Apr. 12 – 30	Exam Period

4. Reading and Supplementary Materials

References

There is no assigned textbook for the course. Some related supplementary references that I have found helpful are listed below. Additional references/resources will be made available via the course website on OWL, as needed.

Cases & Articles

- Case - Dow Chemical Co. - Big Data in Manufacturing ; IVEY Publishing W17696 ; November 2017. **Cost:** \$9.71. **Link:** [Case Study: Dow Chemical Co.: Big Data in Manufacturing \(English version\) | Ivey Publishing](#)
- Article - Design Thinking Ready for Prime Time; David Kelly; Harvard Business School: ROT207. **Cost:** \$4.50

Books

- *Storytelling with Data: A Data Visualization Guide for Business Professionals* Paperback – Nov. 2 2015 by Cole Nussbaumer Knaflic. **Cost:** \$52.95
- Gandrud, C. (2016). *Reproducible Research with R and R Studio*. Chapman and Hall/CRC. Cost: \$280.56. **Link:** [Reproducible Research with R and RStudio: Gandrud, Christopher: 9780367143985: Books - Amazon.ca](https://www.amazon.ca/dp/9780367143985)
- Peck, R., Haugh, L. D., Goodman, A. (1998). *Statistical Case Studies: A Collaboration Between Academic and Industry*. Society for Industrial and Applied Mathematics. **Cost:** \$79.20
- Kloppenborg, T. (2014). *Contemporary Project Management*. Nelson Education. **Cost:** \$122.17

Course Notes: All class slide presentations will be posted on OWL (<http://owl.uwo.ca>) before the class. The course will incorporate videos from various sources, with links provided in the class presentations. In addition, selected case studies and scholarly articles will be used to explore and reinforce key concepts.

Course Website

Course material will be posted to the course OWL site (<http://owl.uwo.ca>). Students are responsible for checking the course OWL site on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class. If you need support, consult the OWL Help page. Alternatively, contact the Western Technology Services Helpdesk, who can also be reached by phone at 519-661-3800 or ext. 83800.

Technical Requirements

- A reliable internet connection and a laptop or computer with the capability to: analyze data using modern statistical and machine learning techniques with commonly used data modelling software; create electronic reports and presentations; and meet remotely using videoconference software such as Zoom with a working microphone and webcam. Note: We will use RStudio statistical software. A laptop or personal computer with R/RStudio installed is recommended. All examples for the course will be demonstrated using RStudio. See the [Comprehensive R Archive Network](#) and [RStudio Desktop - Posit](#) for more information on how to install R/RStudio.

Intellectual Property Statement

Course material developed by your instructor is the intellectual property of the instructor and is made available to students enrolled in this course for their personal use. Sharing, posting, or selling this material to third parties (i.e., to people outside of those in this course, or to companies, websites, organizations, associations, etc.) is considered an infringement of intellectual property rights.

5. Methods of Evaluation

Serial Number	Element	Weight
1	Assignments (2)	30%
2	Class Participation	10%
3	Ethics Module	10%
4	Mock Consulting	10%
5	Final Project	40%

Grading Policies and Breakdown:

5.1 Assignments

- There will be 2 assignments.
- Tentative assignment schedule (dates subject to change) and weights are as follows:

Assignment	To be posted on	Due Date	Weight
1	February 9th	February 21st	15%
2	March 11 th	March 30th	15%

- All submissions must be made electronically. Further details will be provided in the assignment descriptions. After you have viewed your grade for an assignment, a review of the marked work will be conducted once, and no later than one week after the grade has been released. Assignment descriptions will be posted on Brightspace by the dates listed above.
- Late submissions are strongly discouraged.
- Any changes, updates, or clarifications related to assignments will be posted on Brightspace. It is your responsibility to monitor these pages regularly.

5.2 Participation

Based on the nature of this course, it is important to develop the skills and tools you need to work with others on complex programming and technical problems. It is expected that you will be an active participant in all course activities and come prepared by reading the required readings before class each week. Your participation mark is comprised of the following elements: Preparation & Readings, In-Class Activities & Engagement, and Class Discussion & Answering Questions

Please note that not all elements are required to achieve a full participation mark. Participation will be assessed both midway through the course and at the end of the course, based on the elements outlined above.

5.3 Ethics Module

These sessions will take place during weeks 3 and 13. The submission will be done via Brightspace.

5.4 Mock Consulting

These sessions will take place during weeks 11, 12, and 14 (March 16, 18, 23, and 25, and April 6 and 8). Meeting times will be scheduled through Brightspace.

5.5 Final Project

The final report will encompass all material covered in class, as well as content from all assignments. It is due on April 29, 2026.

6. Student Absences

If you are unable to meet a course requirement due to illness or other personal circumstances, please follow the procedures outlined below.

6.1 Undergraduate Student Absences:

General information about missed coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs*, posted on the Academic Calendar:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf,

This policy does not apply to requests for Academic Consideration submitted for attempted or completed work, whether online or in-person.

The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](#).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage: https://registrar.uwo.ca/academics/academic_considerations/

All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline.

All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline. All Academic Consideration requests must include supporting documentation; however, recognizing that formal documentation may not be available in some extenuating circumstances, the policy allows students to make one Academic Consideration request without supporting documentation in this course. However, the following assessments are excluded from this and therefore always require formal supporting documentation:

- Examinations scheduled during official examination periods (Defined by policy)

When a student mistakenly submits their one allowed Academic Consideration request **without supporting documentation** for the assessments listed above or those in the **Coursework with Assessment Flexibility** section below, the request cannot be recalled and reapplied. This privilege is forfeited.

6.2 Graduate Student Absences

Graduate students must provide valid documentation for medical-related absences or adequate supporting documentation for non-medical absences to the instructor as soon as possible and no later than 48 hours after the missed assessment. Documentation for medical illness must include the completion of a Western Student Medical Certificate (SMC) or, where that is not possible, equivalent documentation by a health care practitioner. The SMC is available online here:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

6.3 Missed Assessments and Late Submissions

The following applies to all students, both undergraduate and graduate.

Missed Assessments

- A mark of zero will be assigned to any missed assessments unless a request for academic accommodation has been approved.
- For any assessments that are missed due to approved accommodation or academic consideration, one of the following will occur: an extension to its due date will be given; or the weight will be reassigned within that given method of evaluation; or a make-up assessment will be offered; or the weight will be shifted to another grade component/components. The decision on how to proceed in such a situation will be on a case-by-case basis and is at the discretion of the instructor. If a make-up assessment is missed, a grade of INC may be assigned, and the student may be required to complete the assessment the next time the course is offered.
- There will be no make-up opportunity for the final report, except for students who are absent due to an approved accommodation, who may complete a make-up assessment. So, it is your responsibility to submit your final report on time.

Late Submissions

- A penalty of 10% will be applied to assignments submitted within 24 hours after the due date and time. Assignments submitted between 24 and 48 hours late will incur a 15% penalty. Submissions received more than 48 hours after the due date and time will receive a grade of zero.
- Late submissions of the ethics module components will be subject to a 20% penalty per day or portion thereof (including weekends and holidays); submissions that are 5 or more days late will not be graded.
- Students are responsible for signing up for their mock consulting situation. Sign-up will be on a first-come-first-served basis. The sign-up process, along with a series of possible meeting dates and times, will be provided on the course website partway through the term. Students who neglect to sign up for their mock consulting meeting before the announced deadline will receive a 30% penalty on this component, provided they contact the instructor within one week of the stated sign-up deadline to make alternative arrangements to complete the mock consulting assessment; otherwise, a grade of zero will be assigned.

Absences from Final Examinations

- When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name given by the University for a makeup Final Exam). See the Academic Calendar for details (under [Special Examinations](#)), especially for those who miss multiple final exams within one examination period.

7. Additional Statements

7.1 Religious Accommodation

When a recognized religious holiday or observance conflicts with an examination, test, or other scheduled academic obligation, students must request accommodation via the University's Student Absence Portal (SAP). This request should identify the conflict and specify which course component(s) (e.g. test, midterm, exam) are affected.

Students are encouraged to submit the SAP request as early as possible, but no later than two weeks before any examination, or one week before any mid-term test or quiz, to allow sufficient time for adjustment.

The SAP request serves as official notification to both the course instructor and the Academic Advising Office, in accordance with University policy:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

The Faculty of Science considers religious accommodations as scheduling conflicts. Instructors should provide either a make-up exam or an earlier sitting of the same exam to accommodate the student.

For more information on recognized religious holidays, please visit the Diversity Calendar posted on the Equity, Diversity & Inclusion website - <https://www.edi.uwo.ca>

7.2 Academic Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

[https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic Accommodation disabilities.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf).

7.3 General Academic Policies

The website for Registrar Services is <https://www.registrar.uwo.ca/>.

Use of @uwo.ca email: In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf,

the centrally administered e-mail account provided to students will be considered the individual's official university email address. It is the responsibility of the account holder to ensure that emails received from the University at their official university address are attended to in a timely manner.

Requests for Relief (formally known as "appeals")

Policy on Request for Relief from Academic Decision:

https://uwo.ca/univsec/pdf/academic_policies/appeals/requests_for_relief_from_academic_decisions.pdf

Procedures on Request for Relief from Academic Decision (Undergraduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/undergrad_requests_for_relief_procedure.pdf

Procedures on Request for Relief from Academic Decision (Graduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/graduate_requests_for_relief_procedure.pdf

7.4 Scholastic Offences

Policy on Scholastic Offences:

https://uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_offences.pdf

Procedures on Scholastic Offences (Undergraduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/undergrad_scholastic_offence_procedure.pdf

Procedures on Scholastic Offences (Graduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/graduate_scholastic_offence_procedure.pdf

Use of Electronic Devices During Assessments

In courses offered by the Faculty of Science, the possession of unauthorized electronic devices during any in-person assessment (such as tests, midterms, and final examinations) is strictly prohibited. This includes, but is not limited to: mobile phones, smart watches, smart glasses, and wireless earbuds or headphones.

Unless explicitly stated otherwise in advance by the instructor, the presence of any such device at your desk, on your person, or within reach during an assessment will be treated as a *scholastic offence*, even if the device is not in use.

Only devices expressly permitted by the instructor (e.g., non-programmable calculators) may be brought into the assessment room. It is your responsibility to review and comply with these expectations.

Use of Generative AI Tools

Students are permitted to use generative AI tools for learning support; however, they cannot use AI to write, edit, or pre-evaluate a class assignment or final report for which they will be graded based on their academic performance. If the use of generative AI is permitted for a particular assessment, the conditions of use will be specified by the instructor in advance. If no such permission is granted, students must assume that use is prohibited. It is your responsibility to seek clarification before using any AI tools in academic work.

7.5 Support Services

Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, requests for relief, exam conflicts, and many other academic-related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence (GBSV) and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced GBSV (either recently or in the past), you will find information about support services for survivors, including emergency contacts, at:

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Please contact me if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. If you have any questions regarding accommodations, you may also wish to contact Accessible Education at

http://academicsupport.uwo.ca/accessible_education/index.html