- A familiarity with the concept of data governance;
- o An understanding of the need to practice ethical data analyses; and
- The ability to recognize situations where ethical analysis practices were not followed.

An understanding of the components to conduct a robust data analysis and the ability to document an analysis so that it is reproducible.

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 inperson and electronic settings, non-verbal communication, compensation and negotiation.

## 4. Course Materials

#### References

There is no assigned textbook for the course. Some supplementary references are listed below. These are not required but are listed here as helpful references that are related to course topics. Additional references/resources will be made available via the course website on OWL, as needed.

Alley, M. (2003). The Craft of Scientific Presentations: Critical Steps to Succeed and Critical Errors to Avoid. Springer.

Alley, M. (1996). The Craft of Scientific Writing. Springer.

American Psychological Association. (2022). APA Style common reference examples guide. <u>https://apastyle.apa.org/instructional-aids/reference-examples.pdf</u>

American Psychological Association. (2020). Publication manual of the American Psychological Association (7th ed.). <u>https://doi.org/10.1037/0000165-000</u>

Cabrera, J., & McDougall, A. (2013). Statistical Consulting. Springer.

Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada. (2022). Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. https://ethics.gc.ca/eng/documents/tcps2-2022-en.pdf

Derr, J. (2000). Statistical Consulting: A Guide to Effective Communication. Duxbury Thomson Learning.

Fisher, R, Ury, W. L, & Patton, B. (2011). *Getting to Yes: Negotiating Agreement Without Giving In.* Penguin Books.

Gandrud, C. (2016). Reproducible Research with R and R Studio. Chapman and Hall/CRC.

Kapterev, A. (2011). Presentation Secrets: Do What You Never Thought Possible with Your Presentations. John Wiley & Sons.

Koppenborg, T. (2014). Contemporary Project Management. Nelson Education.

Peck, R, Haugh, L D., Goodman, A. (1998). *Statistical Case Studies: A Collaboration Between Academe and Industry*. Society for Industrial and Applied Mathematics.

**Stodden, V., Leisch, F., & Peng, R. D. (Eds.). (2014).** Implementing Reproducible Research. **CRC Press. Ury, W. (2007).** Getting Past No: Negotiating in Difficult Situations. Bantam.

## Course Website

Course material will be posted to the course OWL site (<u>http://owl.uwo.ca</u>). 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 <u>OWL Help page</u>. Alternatively, contact the <u>Western Technology Services Helpdesk</u>, who can also by phone at 519-661-3800 or ext. 83800.

## **Technical Requirements**

A reliable internet connection and a laptop or desktop computer with the capabilities to

- 1. Analyze data using modern statistical and machine learning techniques with commonly used data modelling software (e.g., R, Python);
- 2. Create electronic reports and presentations; and
- 3. Meet remotely using videoconference software such as zoom with a working microphone and webcam.

Note that <u>Google Chrome</u> or <u>Mozilla Firefox</u> are the preferred browsers to optimally use OWL Remember to update your browsers frequently.

## 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 in this course. 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

#### The overall course grade will be calculated as listed below:

Assessment*	Tentative Number and Approximate Timing/Due Date	Submit to	Weight
Assignments	Weeks 3, 6, 10 and 11	OWL Assignments	20
Assigned Online Forums	Weeks 1, 5, 8, 9 and 12.	OWL Forums	15
Ethics Module	Weeks 2 and 13	OWL Assignments	10
Mock Consulting Stuation	These will take place during weeks 11 12 (March 18 22, and March 25 29). Your individual meeting will be scheduled using OWL	NA to be held remotely by Zoom	10
Participation	Ongoing throughout the term. Actively engaging with all course learning materials and activities, regardless of their format whether in-person or online is essential for achieving learning outcomes.	NA	5
Final Report	April 28	OWL Assignments	40
TOTAL			100

# 6. Student Absences

#### **Requesting Accommodation**

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

Assessments worth less than 10% of the overall course grade: Please contact the instructor to request accommodation in this situation. No medical/supporting documentation will be required.

Assessments worth 10% or more of the overall course grade: For work totaling 10% or more of the final course grade, the procedure you follow depends on whether you are an undergraduate student or a graduate student. The specific procedures for each of these situations are as follows:

#### Undergraduate Students

You must provide valid medical or supporting documentation to the Academic Counselling Office of your Faculty of Registration as soon as possible.

For further information, please consult the U https://www.uwo.ca/univsec/pdf/academic\_policies/appeals/accommodation\_medical.pdf

The Student Medical Certificate is available at <a href="https://www.uwo.ca/univsec/pdf/academic\_policies/appeals/medicalform.pdf">https://www.uwo.ca/univsec/pdf/academic\_policies/appeals/medicalform.pdf</a>

#### Graduate Students

You must provide valid documentation for medical-related absences or adequate supporting documentation for non-medical absences.

For medical-related absences, you must provide a Student Medical Certificate (SMC) signed by a licensed medical or mental health professional. The SMC is available online at <u>https://www.uwo.ca/univsec/pdf/academic\_policies/appeals/medicalform.pdf</u>

Note that in all cases, graduate students are required to contact their instructors within 24 hours of the end of the period covered by such documentation to request accommodation.

## Accommodated Evaluations

#### Missed Assessments

A mark of 0 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 one of the following will occur: an extension to its due date will be given; or the weight

# 8. Academic Policies

The website for Registrarial Services is <u>http://www.registrar.uwo.ca</u>

#### Style Guide

A style guide (or manual) is a set of standards for the design and writing of documents that establishes a consistent style that aids in reading comprehension, provides clarity of community, and reduces bias in language. One commonly used example is the APA style guide. This is the style guide we will be using for this course. Additional information about APA style will be posted on the course website. Unless otherwise specified by the instructor, students are required to employ the APA style guide in all written assignments. Failure to do so may result in a loss of grades.

Checking Marked Work: In the event of a question regarding a mark or a final grade, students are responsible for retaining and presenting any graded materials that were returned to the student during the term. Students have one week from the date the material was returned in class to report any apparent error in the marking and appeal their grade. No marks will be changed after that time. The instructor reserves the right to remark the entire assessment (e.g., assignment, lab, quiz, test, project, exam, etc.).

Grades: Marks will not be disclosed or discussed by email or telephone. This includes final grades. Students who wish to discuss a grade on an assessment or their final grade in the course are welcome to come see me during my office hours or to contact me to set up an appointment to meet.

# 9. Support Services

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

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

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (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 the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at <a href="http://academicsupport.uwo.ca/accessible\_education/index.html">http://academicsupport.uwo.ca/accessible\_education/index.html</a> if you have any questions regarding accommodations.

Learning-skills counsellors at the Student Development Centre (<u>https://learning.uwo.ca/</u>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual