

Selected Topics in Management and Organizational Studies
Business Intelligence
MOS 2198B 550 (Winter 2022)

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Course schedule: Tuesday 2:30 PM to 3:30 PM and Thursday 3:30 PM to 5:30 PM

Office Hours: By appointment (Zoom)

Course delivery with respect to the COVID-19 pandemic

Although the intent is for this course to be delivered in-person, the changing COVID-19 landscape may necessitate some or all of the course to be delivered online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will not change. Any assessments affected will be conducted online as determined by the course instructor.

COURSE DESCRIPTION:

Organizations increasingly rely on data and sophisticated analytical tools to make effective, strategic decisions and thus look for workers with a data-driven mindset and business analytics skills. This course will enable you to develop an understanding of the vast amount of data that is available to organizations, and teach you the skills to access, prepare, analyze and visualize this data to support decision-making, solve business problems, and remain competitive. This course is heavily based on hands-on activities, providing you with practice implementing data analytic techniques and using tools for business intelligence. The focus is on techniques and tools that can be used by individuals in an organization to gain insight into complex business problems. The techniques that will be used are extended data analysis and data visualization. These analytics techniques will be supported with applications such as MS Excel, Power BI and Tableau.

PRE OR COREQUISITES

Prerequisite(s): Enrolment in 2nd year of the BMOS or the Honours Specialization or Specialization in Foods and Nutrition.

COURSE LEARNING OBJECTIVES

As a result of this course, students will be able to:

- Recognize business problems that can be addressed with Business Analytics tools

- Get familiar with overall business analytics concepts, and descriptive analytics techniques
- Develop strong modeling skills in Excel and Power BI
- Learn about data visualization concepts and select appropriate data visualization techniques
- Apply tools to visualize data, including Tableau, Excel and Power BI

DESCRIPTION OF CLASS METHODS

This course is based on hands-on activities. The instructor will demonstrate a variety of Business Intelligence software and techniques which will help students acquire technical skills related to managerial and strategic decision making. The students are required to have a computer in order to install the required software.

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TEXTBOOKS AND OTHER REQUIRED RESOURCES

Optional Textbooks: Excel 2016 Data Analysis and Business Modeling, Wayne L. Winston
 Show Me the Numbers, Stephen Few, 2nd Edition, Analytics Press
 The Big Book of Dashboards: Visualizing Your Data Using Real-World Business Scenarios, Steve Wexler, Jeffrey Shaffer, Andy Cotgreave, Wiley.

Course Notes and data files To be found on the course website at <https://owl.uwo.ca>.

Course Software & Computers Note that MS Office 365, which includes **Microsoft Excel** is available for free. If you are interested in installing it on your personal computer, visit: <https://wts.uwo.ca/sitelicense/microsoft/homeuse.html>

Microsoft Power BI Desktop (Free) is compatible with Windows OS only) To download, please visit the following webpage: <https://powerbi.microsoft.com/en-us/desktop/>

Tableau Desktop (Compatible with both Windows OS and Mac OS)
 License: 1 year free license for the instructors and the students. The students should fill a form on Tableau website (using their Western e-mail) to receive the registration code. The students can install this software on their computer.

To download, visit: <https://www.tableau.com/products/desktop/download>

To fill the form, visit <https://www.tableau.com/academic/students#form>

SOFTWARE REQUIREMENTS (IMPORTANT)

During three sessions of this course, the students should use **Power BI Desktop** software that can be installed in Windows OS only. For the remaining sessions, the student must have **Microsoft Excel** and **Tableau** that are available for both Mac OS and Windows OS. The students who registered for this course need to ensure that they have access to these software applications. MyVLab is a service hosted by Western Technology Services providing students and faculty remote access to applications that are not widely available. Users login to an application with their Western Identity and are provided a Desktop environment to run the provided applications.

Mac OS users can visit <https://myvlab.uwo.ca/>

METHOD OF EVALUATION/ASSESSMENT

Weekly Assignments	20%
Midterm Test	35%
Quiz	10%
Business Intelligence Project	35%

NOTE: The content and/or evaluation scheme in this course is subject to change.

Weekly Assignments

Submitting weekly assignments is valued and required. Please note that late submissions will not be accepted.

20%: completing exercises and uploading the solution to OWL before each deadline.

All dates and times: **Canada Eastern time**

Assignment 1	1%
Assignment 2	2%
Assignment 3	2%
Assignment 4	5%
Assignment 5	5%
Assignment 6	5%

Midterm Test (Closed-book)

The midterm test (35%) will cover all the features and methods to analyze data in Excel covered in week 1 to week 5 inclusively. The midterm exam will be held on **February 17th, 2022 from 3:30 pm to 5:30 pm (during the class schedule)**. This will be a computer-based exam and all the students are required to have a computer for the exam.

Quiz

A computer-based quiz (10%) will be held on **Thursday, March 17th 2022 at 3:30 pm, Canada Eastern Time** (during class schedule) and will be a closed-book test on data visualization concepts as well as other theoretical concepts explained in previous sessions.

Business Intelligence Presentation

The project (35%) consists in performing data analysis and visualization and presenting the results to the class on the last day of class. Each individual or team will identify an organization and perform data analysis to enhance data-driven decision making in the organization. If data from an organization cannot be obtained, a team can identify a dataset from other accessible sources.

There are three parts to the project:

- a. Project proposal (due **March 17, 2022 at 10:00 pm, Canada Eastern Time**)
- b. Group Presentation (20%)
- c. Written report (15%)

The submission deadline for the project's written report and PowerPoint slides is **April 4th, 2022 at 10:00 pm, Canada Eastern Time**.

COURSE POLICIES

➤ Assignments & tests

- Always make sure you have a backup of your assignments and of your test.
- Assignments & tests may be written in either English or French.
- Late submissions **will not be accepted** and **no mark will be given** after the deadlines.
- If you are not satisfied with the grading of an assignment or test, you may request a review **within 1 week of grade posting**.
 - Indicate in writing where and why you feel the marks are unjustified and give it back to the instructor for re-grading.
 - Note that the entire assignment will be re-graded and your grade can go up or down (or stay the same).

If you are to miss a test, you must report this as soon as possible to your instructor. It will be up to the instructor to decide an appropriate course of action.

TENTATIVE SCHEDULE OF CLASSES

- This is a brief summary of the current plan for session-by-session topics and readings.
- This schedule may change – updates are posted on OWL.

Week	Date	Topic	Assignment/quiz
1	Jan 11 and Jan 13	Course introduction, Role of Data Importance of Business Intelligence	
2	Jan 18 and Jan 20	Data Analytics Typology	Assignment
3	Jan 25 and Jan 27	Data Manipulation and Analysis with Excel	Assignment
4	Feb 1 and Feb 3	Data Manipulation and Analysis with Excel	Assignment
5	Feb 8 and Feb 10	Data Manipulation and Analysis with Excel	Assignment
6	Feb 15 and Feb 17	Midterm review Computer-based midterm exam: Thursday, February 17th, 2022 from 3:30 pm to 5:30 pm.	
February 21, 2022 to February 27, 2022 - Spring Reading Week			
7	March 1 and March 3	Introduction to Microsoft Power BI Data cleaning and data processing	
8	March 8 and March 10	Data Visualization with Microsoft Power BI	Assignment
9	March 15 and March 17	Data Analysis with Tableau	Assignment
10	March 22 and March 24	Data Visualization with Tableau. The quiz will be held on Thursday, March 24 at 3:30 pm	Quiz
11	March 29 and March 31	Data Visualization with Tableau (continued)	
12	April 5 and April 7	Business Intelligence Project Presentations	Project report due April 4th, 2022

Scholastic Offences, Plagiarism and Collusion

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a scholastic offence, at the following website:

http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf.

Plagiarism is the submission of work that is in whole or in part someone else's work (including, but not limited to, text, calculations and exhibits), which you claim as your own. Students must write their assignments, essays, reports, exams, etc. in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by using proper references such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

All required case exams and reports may be subject to submission for similarity review to the commercial plagiarism detection software under licence to the University for the detection of plagiarism. All papers submitted will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement currently in effect between The University of Western Ontario and Turnitin.com (www.turnitin.com).

UNIVERSITY RESOURCES

The website for the Office of the Registrar is <http://www.registrar.uwo.ca>. Students may also wish to contact Student Development Services at <http://www.sdc.uwo.ca>.



Appendix to Course Outlines: Academic Policies & Regulations 2021 - 2022

Mandatory Use of Masks in Classrooms

Students will be expected to wear triple layer non-medical masks at all times in the classroom as per Huron policy and public health directives. Students are now permitted to drink water in class by lifting and replacing the mask each time a drink is taken. Students will be able to eat and drink outside of the classroom during scheduled breaks.

Students unwilling to wear a mask as stipulated by Huron policy and public health directives will be referred to the Dean's Office, and such actions will be considered a violation of the Huron Student Code of Conduct.

Pandemic Contingency

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, typically using a combination of synchronous instruction (i.e., at the times indicated in the timetable) and asynchronous material (e.g., posted on OWL for students to view at their convenience). Any remaining assessments will also be conducted online at the discretion of the course instructor. In the unlikely event that changes to the grading scheme are necessary, these changes will be clearly communicated as soon as possible.

Student Code of Conduct

Membership in the community of Huron University College and Western University implies acceptance by every student of the principle of respect for the rights, responsibilities, dignity and well-being of others and a readiness to support an environment conducive to the intellectual and personal growth of all who study, work and live within it. Upon registration, students assume the responsibilities that such registration entails. While in the physical or online classroom, students are expected to behave in a manner that supports the learning environment of others. Please review the Student Code of Conduct at:

<https://huronatwestern.ca/sites/default/files/Res%20Life/Student%20Code%20of%20Conduct%20-%20Revised%20September%202019.pdf>.

Prerequisite and Antirequisite Information

Students are responsible for ensuring that they have successfully completed all course prerequisites and that they have not completed any course antirequisites. 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 receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Attendance Regulations for Examinations

A student is entitled to be examined in courses in which registration is maintained, subject to the following limitations:

- 1) A student may be debarred from writing the final examination for failure to maintain satisfactory academic standing throughout the year.
- 2) Any student who, in the opinion of the instructor, is absent too frequently from class or laboratory periods in any course will be reported to the Dean of the Faculty offering the course (after due warning has been given). On the recommendation of the Department concerned, and with the permission of the Dean of that Faculty, the student will be debarred from taking the regular examination in the course. The Dean of the Faculty offering the course will communicate that decision to the Dean of the Faculty of registration.

Review the policy on Attendance Regulations for Examinations here:

https://www.uwo.ca/univsec/pdf/academic_policies/exam/attendance.pdf.

Statement on Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf. The appeals process is also outlined in this policy as well as more generally at the following website:

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

Turnitin.com

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Statement on Use of Electronic Devices

It is not appropriate to use electronic devices (such as, but not limited to, laptops, cell phones) in the classroom for non-classroom activities. Such activity is disruptive and distracting to other students and to the instructor, and can inhibit learning. Students are expected to respect the classroom environment and to refrain from inappropriate use of technology and other electronic devices in class.

Statement on Use of Personal Response Systems (“Clickers”)

Personal Response Systems (“clickers”) may be used in some classes. If clickers are to be used in a class, it is the responsibility of the student to ensure that the device is activated and functional. Students must see their instructor if they have any concerns about whether the clicker is malfunctioning. Students must use only their own clicker. If clicker records are used to compute a portion of the course grade:

- the use of somebody else’s clicker in class constitutes a scholastic offence
- the possession of a clicker belonging to another student will be interpreted as an attempt to commit a scholastic offence.

Academic Consideration for Missed Work

Students who are seeking academic consideration for missed work during the semester may submit a self-reported absence form online provided that the absence is **48 hours or less** and the other conditions specified in the Senate policy at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf are met.

Students whose absences are expected to last **longer than 48 hours**, or where the other conditions detailed in the policy are not met (e.g., work is worth more than 30% of the final grade, the student has already used 2 self-reported absences, the absence is during the final exam period), may receive academic consideration by submitting a Student Medical Certificate (for illness) or other appropriate documentation (for compassionate grounds). The Student Medical Certificate is available online at

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

All students pursuing academic consideration, regardless of type, must contact their instructors no less than 24 hours following the end of the period of absence to clarify how they will be expected to fulfill the academic responsibilities missed during their absence. **Students are reminded that they should consider carefully the implications of postponing tests or midterm exams or delaying submission of work, and are encouraged to make appropriate decisions based on their specific circumstances.**

Students who have conditions for which academic accommodation is appropriate, such as disabilities or ongoing or chronic health conditions, should work with Accessible Education Services to determine appropriate forms of accommodation. Further details concerning policies and procedures may be found at: <http://academicssupport.uwo.ca/>.

Policy on Academic Consideration for a Medical/ Non-Medical Absence

- (a) **Consideration on Medical Grounds for assignments worth *less than 10%* of final grade:
Consult Instructor Directly and Contact Academic Advising**

When seeking consideration on **medical grounds** for assignments worth *less than 10%* of the final course grade, and if the student has exceeded the maximum number of permissible Self-Reported absences, the

student should contact the instructor directly. The student need only share broad outlines of the medical situation. The instructor **may** require the student to submit documentation to the academic advisors, in which case she or he will advise the student and inform the academic advisors to expect documentation. If documentation is requested, the student will need to complete and submit the [Student Medical Certificate](#). The instructor may **not** collect medical documentation. The advisors will contact the instructor when the medical documentation is received, and will outline the severity and duration of the medical challenge as expressed on the Student Medical Certificate and in any other supporting documentation. The student will be informed that the instructor has been notified of the presence of medical documentation, and will be instructed to work as quickly as possible with the instructor on an agreement for accommodation.

(b) Consideration on Non-Medical Grounds: Consult Huron Support Services/Academic Advising, or email huronsss@uwo.ca.

Students seeking academic consideration for a **non-medical** absence (e.g. varsity sports, religious, compassionate, or bereavement) will be required to provide appropriate documentation where the conditions for a Self-Reported Absence have not been met, including where the student has exceeded the maximum number of permissible Self-Reported. All consideration requests must include a completed [Consideration Request Form](#). Late penalties may apply at the discretion of the instructor.

Please review the full policy on Academic Consideration for medical and non-medical absence at: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf. Consult [Huron Academic Advising](#) at huronsss@uwo.ca for any further questions or information.

Support Services

For advice on course selections, degree requirements, and for assistance with requests for medical accommodation, students should email an Academic Advisor in Huron's Student Support Services at huronsss@uwo.ca. An outline of the range of services offered is found on the Huron website at: <https://huronatwestern.ca/student-life/student-services/>.

Department Chairs, Program Directors and Coordinators are also able to answer questions about individual programs. Contact information can be found on the Huron website at: <https://huronatwestern.ca/contact/faculty-staff-directory/>.

If you think that you are too far behind to catch up or that your workload is not manageable, you should consult your Academic Advisor. If you are considering reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines. Please refer to the Advising website, <https://huronatwestern.ca/student-life/student-services/academic-advising/> or review the list of official Sessional Dates on the Academic Calendar, available here: <http://www.westerncalendar.uwo.ca/SessionalDates.cfm>.

You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. Note that dropping a course may affect OSAP and/or Scholarship/Bursary eligibility.

Huron Student Support Services: <https://huronatwestern.ca/student-life/student-services/>

Office of the Registrar: <https://registrar.uwo.ca/>

Student Quick Reference Guide: <https://huronatwestern.ca/student-life/student-services/#1>

Academic Support & Engagement: <http://academic-support.uwo.ca/>

Huron University College Student Council: <https://huronatwestern.ca/student-life/beyond-classroom/hucsc/>

Western USC: <http://westernusc.ca/your-services/#studentservices>

Mental Health & Wellness Support at Huron and Western

University students may encounter setbacks from time to time that can impact academic performance. Huron offers a variety of services that are here to support your success and wellbeing. Please visit <https://huronatwestern.ca/student-life-campus/student-services/wellness-safety> for more information or contact staff directly:

Wellness Services: huronwellness@huron.uwo.ca

Community Safety Office: safety@huron.uwo.ca

Chaplaincy: gthorne@huron.uwo.ca

Additional supports for Health and Wellness may be found and accessed at Western through, <https://www.uwo.ca/health/>.