



Odette School of Business
University of Windsor

Master of Management



BSMM-8740 (Data Analytic Methods and Algorithms) Fall 2025

Class Meetings:	[Section 2: Wednesdays, 11:30am – 2:20pm Odette Building 507]		
Instructor:	[Dr. Lou Odette]		
Office Hours:	[Wednesdays, 2:30-3:30pm]	Office:	[TBD]
Telephone:	[]	Email:	lodette@uwindsor.ca
Course Website:	https://brightspace.uwindsor.ca		
Course Format:	In-person teaching		
Textbook:	The Elements of Statistical Learning - Data Mining, Inference, and Prediction. Second Edition by Trevor Hastie, Robert Tibshirani, and Jerome Friedman. Available for free at https://web.stanford.edu/~hastie/ElemStatLearn/		
Estimated Costs for Course Materials:	\$0		
Academic Director:	Dr. Brent Furneaux	Email:	brent.furneaux@uwindsor.ca
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The University of Windsor sits on the traditional territory of the Three Fires Confederacy of First Nations, which includes the Ojibwa, the Odawa, and the Potawatomi. We respect the longstanding relationships with First Nations people in this place in the 100-mile Windsor-Essex peninsula and the straits – les détroits – of Detroit.

1.0 – RECORDING AND SHARING OF COURSE CONTENT:

Recording or reproduction of class sessions in whole or in part in any format including audio, video, or photographic format is not permitted without prior written permission from the course instructor or presenter. In addition, course materials cannot be shared, distributed, emailed, posted online, or otherwise disseminated or communicated in any form to any other person (including fellow classmates) unless written consent has first been obtained from the instructor or presenter. Course materials include but are not limited to slides, instructor notes, assignment instructions, tests and exams, audio and video recordings of course lectures, and audio and video recordings of software demonstrations.

Students registered with Student Accessibility Services for whom lecture recording is an approved academic accommodation may record lectures with the exception of discussions that would divulge personal information in the context of required course work which cannot be recorded in any format. Where a recording captures an image of classroom activities (e.g., video-recording or other image-capture technology), such recording must only capture the instructor or the presenter. Dissemination of recorded material in any form (including transcription) is prohibited without the explicit written consent of the instructor. Where there is an approved accommodation to record lectures, the instructor will provide notice to the class that lectures may be recorded.

2.0 - CALENDAR DESCRIPTION:

This course is the exploration of an analytical framework for method selection and model building to help students develop professional capability in data-based techniques of data analytics. A focus will be placed on comparing and selecting appropriate methodology to conduct advanced statistical analysis and on building predictive modeling in order to create a competitive advantage in business operations with efficient analytical methods and data modeling.

3.0 - COURSE LEARNING OBJECTIVES:

At the end of the course, the successful student will know and be able to:

- Recognize an analytical framework and criteria to apply when selecting the appropriate method to build data analytic models.
- Apply appropriate methodology to conduct advanced statistical analysis and produce predictive models which achieve a competitive advantage based on efficient methods and data modeling.

4.0 - MASTER OF MANAGEMENT ASSURANCE OF LEARNING (AOL) COMPETENCIES:

Each Odette Program has Assurance of Learning competencies. For this course the following competencies are taught:

Program Competency
MM1. Graduates should be effective business decision makers.
MM5. Graduates should be innovative business leaders.

5.0 - COURSE CONTENT:

Week	Date	Topics	Reading Assignments
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1	Sep 10, 2025	The Tidyverse, EDA & Git	TBD
2	Sep 17, 2025	The Recipes Package	TBD
3	Sep 24, 2025	Regression Methods	TBD
4	Oct 01, 2025	The TidyModels Package	TBD
5	Oct 08, 2025	Classification & Clustering Methods	TBD
Reading Week, October 11-19, 2025			
6	Oct 22, 2025	Time Series Methods	TBD
7	Oct 29, 2024	Causality: DAGs	TBD
8	Nov 05, 2025	Causality: Methods	TBD
9	Nov 12, 2025	Monte Carlo Methods	TBD
10	Nov 19, 2025	Bayesian Methods	TBD
11	Nov 26, 2025	Advanced Topics	TBD
12	Dec 03, 2025	Advanced Topics	TBD

*The above schedule is subject to change. Students will be notified of any significant changes. Additional readings may be assigned as necessary.

**Note that the final day to voluntarily withdraw from this course is as specified in Senate Bylaw 55.

***In accordance with Senate Policy on Student Perceptions of Teaching (SPT) and Mandatory Administration of the SPT, you will be provided with up to 15 minutes at the beginning of one regular class session during the last 2 weeks of classes to complete a Student Perception of Teaching (SPT) evaluation on your laptop or other electronic device.

6.0 - KEY DATES FOR EXAMS/ASSIGNMENTS:

Date	Exam/Assignment
Oct 08, 2025	Quiz 1
Nov 05, 2025	Midterm Examination
Nov 19, 2025	Quiz 2
Dec 03, 2025	Final Examination

*Final exams will take place during the university specified final exam period. Students are advised to read Senate Policy on the Conduct of Tests and Exams.

7.0 - IMPORTANT PROGRAM DATES:

A list of important program dates including the last day to voluntarily withdraw from courses can be found on the Office of the Registrar website at <https://www.uwindsor.ca/registrar/events-listing>.

8.0 - GRADING:

Grades will be assigned on the following basis:

Deliverable	Individual or Group	%
Quizzes		20
Lab Assessments		30
Midterm Examination		25
Final Examination		25

TOTAL		Total		100
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9.0 - GRADING SCALE POLICIES:

All course work is to be marked, and final grades submitted using the 100% scale beginning September 1, 2013. In accordance with the Senate resolution, instructors are to submit whole numbers (e.g., 88, 76, etc.) as percentages. The following University-wide grade descriptors are in effect and will be printed on the back of transcripts:

Letter Grade	Percentage Range
A+	90-100
A	85-89.9
A-	80-84.9
B+	77-79.9
B	73-76.9
B-	70-72.9
C+	67-69.9
C	63-66.9
C-	60-62.9
F	0-59.9

10.0 - EXAM/ASSIGNMENT DESCRIPTIONS:

The use of generative artificial intelligence (AI) tools is strictly prohibited in all course assessments unless explicitly indicated otherwise in guidelines provided by the instructor for an assessment. This includes the use of ChatGPT, Google Gemini, Claude, Jenni, Github Co-pilot, DaLL-E, Midjourney, and all other tools that provide artificial intelligence capabilities. When the use of generative AI is permitted this use must be acknowledged and cited following citation instructions given in the assessment guidelines. Use of generative AI outside of assessment guidelines or without required citation will constitute academic misconduct and may be subject to discipline under Senate Bylaw 31: Academic Integrity. It is the student's responsibility to be clear concerning constraints on the use of generative AI for each assessment and to comply with these constraints.

Quizzes

The quizzes can consist of true/false, multiple choice, short answer, and essay questions from all material covered before the date of the quiz. When writing quizzes, you must abide by University of Windsor policies governing plagiarism and academic integrity. Quiz submissions may be subjected to review by automated tools to verify their originality.

Lab Assessments

Lab assessments will require learners to demonstrate the ability to apply methods and techniques to machine learning problems using the R language and explain the steps they followed to solve a problem. Assessments should be started in person during lab sessions. Deadlines for each lab assessment will be posted

Midterm Examination

The midterm exam can consist of true/false, multiple choice, short answer, and essay questions from all

material covered before the date of the mid-term exam. When writing this exam you must abide by University of Windsor policies governing plagiarism and academic integrity. Exam submissions may be subjected to review by automated tools to verify their originality.

Final Examination

The final exam can consist of true/false, multiple choice, short answer, and essay questions covering all course material including material discussed during lab sessions. When writing this exam you must abide by University of Windsor policies governing plagiarism and academic integrity. Exam submissions may be subjected to review by automated tools to verify their originality.]

11.0 - DIGITAL LEARNING RESOURCES:

Digital resources may be used in this course for assessment purposes. The assessments that will rely on these resources constitute [0%] of the grade for this course. These resources can be purchased from [Not Applicable]. The assignment of digital learning resources at the University of Windsor is governed by a policy entitled The Use of Digital Learning Resources for Instructional and Assessment Purposes, which can be reviewed at www.uwindsor.ca/policies.

Should you have any concerns about the assignment of digital learning resources for this course, please let the Master of Management Program Director know in writing, as the University regularly reviews this policy based on campus community feedback.

12.0 - MASTER OF MANAGEMENT COURSE POLICIES:

Please refer to the Master of Management Course Policies document for specific information on the following subjects. This Course Policies document is available electronically from each course website, on the Brightspace Master of Management Program page at <https://brightspace.uwindsor.ca/d2l/le/content/136263/viewContent/654482/View?ou=136263>, and in paper form outside the Master of Management Graduate Secretary's office on the 2nd floor of the Odette Building.

Academic Integrity and Code of Conduct
Missed Exams and Late Assignments
Registration, Adding, and Dropping Courses
Odette School of Business Grade Conversion Scale
Odette School of Business Grading Policy

13.0 - MASTER OF MANAGEMENT PROGRAM ETIQUETTE:

The Master of Management program is a culturally inclusive program where it is expected that students, faculty, and staff will recognize, appreciate, and benefit from diversity so as to enhance the learning experience. Promoting a culturally inclusive learning environment encourages individuals to collaborate and develop intercultural respect. The following outlines the protocol for Master of Management students while they are at the University of Windsor:

- All students will communicate in English at all times. It is important for students to continually

- improve language skills and be inclusive of others from different backgrounds.
- Students will demonstrate respectful behavior toward their peers and professors, regardless of culture, language, values, beliefs, or ideas.

14.0 - SECONDARY DATA USE, EVALUATION, FOCUS GROUPS AND INTERVIEWS:

This course will be evaluated as part of internal or external quality assurance processes and reporting requirements to funding agencies and as research data for scholarly use. As a student in this course your online student data will be used for evaluating the course delivery and your engagement in the various aspects of the course. This will only occur after final grades have been submitted and approved so it will have no effect on your grade. This course data provides information about your individual course usage and activity during the time that you are enrolled in the course. Your anonymized, aggregated data may also be used in the future in reports, articles or presentations.

During the final week of the course, you may also be invited to participate in further research about the course. If you decide to participate you may be asked to fill out anonymous online questionnaires that solicit your impressions about the course design and student learning in the course. The survey participation is voluntary, and no questions of a personal nature will be asked. Your participation will have no effect on your grade and your instructor will not know who participated in the surveys.

Finally, at the end of the survey you may also be asked if you want to participate in a focus group or interviews after final grades have been assigned to gather yours and other student opinions about specific course delivery methods and technologies used.

15.0 - COMMITMENT TO STUDENT WELLNESS:

Feeling Overwhelmed?

From time to time, students face obstacles that can affect academic performance. If you experience difficulties and need help, it is important to reach out to someone.

For help addressing mental or physical health concerns on campus, contact (519) 253-3000:

- Student Health Services at ext. 7002 (<http://www.uwindsor.ca/studenthealthservices/>)
- Student Counselling Centre at ext. 4616 or scc@uwindsor.ca (<http://www.uwindsor.ca/studentcounselling/>) (offering single session appointments, short-term therapy, and group therapy, Monday – Friday 8:30 am – 4:30 pm)
- Peer Support Centre at ext. 4551

24 Hour Support is Available

- Good2Talk provides free, 24/7 single-session professional counselling and referral by phone to post-secondary students in Ontario. Services are provided in English and French, with translation services available in 100+ languages.
 - Call: 1-866-925-5454 (reach professional counsellors)
 - Text: GOOD2TALKON to 686868 (reach trained volunteers)
- Wellness Together Canada provides free, 24/7 professional mental health and substance use counselling by phone to anyone in Canada and Canadians abroad. Service is provided in English

and French, with translation services available by request.

- Call: 1-866-585-0445 (reach professional counsellors)
- Text: WELLNESS to 686868 (reach trained volunteers)

A full list of on- and off-campus resources is available at <https://www.uwindsor.ca/wellness/support>.

Should you need to request alternative accommodation contact your Instructor, Program Administrator, or Director.

16.0 - APPENDICES:

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