

SS3860B Generalized Linear Models / MDA9155 Statistical Modelling II Course Outline

1. Course Information

Course Information

Academic Term: Winter 2026

Lecture Hours: Tuesday 9:30 – 11:30 AM, Wednesday 10:30 – 11:30 AM

Lecture Location: BGSB-0165

Prerequisites for SS3860B: Statistical Sciences 3859A/B with at least 60%.

Prerequisites for MDA 9155: MDA 9159 with at least 60%

Unless you have either the prerequisites for this course or written special permission from the Department of Statistical and Actuarial Sciences to enroll in it, you may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on your academic record. This decision may not be appealed.

2. Instructor Information

Instructors	Email	Office	Phone	Office Hours
Dr. Hyukjun (Jay) Gweon	hgweon@uwo.ca	WSC 211	519-661-2111 ext.87792	Mon 1:30 – 2:30 pm
TA				
TA				

Students must use their Western (@uwo.ca) email addresses when contacting their instructors.

3. Course Syllabus, Schedule, Delivery Mode

Estimation and tests for generalized linear models, including residual analysis and the use of statistical packages. Logistic regression, log-linear models. Additional topics may include generalized estimating equations, quasi-likelihood and generalized additive models.

Below is the tentative weekly schedule.

Week		Topics
1	Jan 5-9	Review of linear regression
2	Jan 12-16	Likelihood methods: parameter estimation and inferences
3	Jan 19-23	Logistic regression (Ch 2)
4	Jan 26-30	Logistic regression (Ch 2) Binomial regression (Ch 3)
5	Feb 2-6	Poisson regression (Ch 5) Midterm 1
6	Feb 9-13	Poisson regression (Ch 5)
7	Feb 16-20	Reading week
8	Feb 23-27	Two-way contingency tables (Ch 6)
9	Mar 2-6	Multinomial regression (Ch 7) Midterm 2
10	Mar 9-13	Generalized linear models (Ch 8)
11	Mar 16-20	Generalized linear models (Ch 8)
12	Mar 23-27	Random effects (Ch 10) Midterm 3
13	Mar 30-Apr 3	Longitudinal data (Ch 11)
14	April 6-8	Generalized linear mixed models (Ch 13)

Key Sessional Dates

Classes begin: January 5, 2026

Spring reading week: February 14 – 22, 2026

Good Friday (no class): April 3, 2026

Classes end: April 9, 2026

Final exam period: April 12 – 30, 2026

4. Course Materials

The instructor will use his own course notes and examples.

Course notes will be heavily based on the following textbook:

Faraway, JJ (2016) Extending the Linear Model with R: Generalized Linear, Mixed Effects and Nonparametric Regression Models, 2nd Edition. CRC Press.

Information about the textbook cost can be found [here](#). Book resources are available at the author's webpage: <https://julianfaraway.github.io/faraway/ELM/>

Note: Students need to use the second edition. The first edition will not be sufficient.

Software: We will use **R** for covering examples. A laptop or personal computer with R/RStudio installed is recommended.

All R codes that we use in class will be posted to OWL: <https://westernu.brightspace.com/>

Students are responsible for checking the course OWL site (<https://westernu.brightspace.com/>) regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class.

If students need assistance with the course OWL site, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

5. Methods of Evaluation

Grading Scheme and Assessment Dates

The overall course grade will be calculated as listed below:

Assignments (2)	10%
Midterm Tests (3)	60%
Final Exam	30%

Assignments

There will be **two homework assignments (each is worth 5%)** during the course.

Midterm Tests

There will be **three 2-hour in-person midterm tests** that cover the course material. **The tentative test dates are Feb 3, Mar 3 and Mar 24. Each test will be worth 20% of your final grade.** The topics covered for each test will be announced later.

Final Exam

The date of the final exam (3-hour long) will be set by the university.

Specific conditions that are required to pass the course:

- Before the final exam, students are required to have completed assessments whose weight totals at least **45% of their final grade**. Students who do not meet this requirement may be given an opportunity to complete the requirement with the next offering of the course.

Notes:

- All tests are closed book.

Use of Generative AI Tools

The use of generative AI tools (e.g., ChatGPT, Copilot, Gemini) is allowed for brainstorming ideas for assignments but not for producing your final written answers. Midterm tests and final exam are closed-book.

6. Student Absences

Academic consideration requests are *handled differently* for undergraduate and graduate students. If you are unable to meet a course requirement due to illness or other serious circumstances, please follow the procedures from the applicable subsection below.

- Undergraduate students should consult Section 6.1.
- Graduate students should consult Section 6.2.

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://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 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 are applicable to all students, both undergraduate and graduate.

Missed test: There are no make-up exams for missed tests. For those who do legitimately miss a test, the weight of the missed test will be transferred to the final exam.

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 to 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.

Late assignment: Late submissions with approved accommodation or academic consideration must be completed within 48 hours of the scheduled deadline in order to receive no penalty. Submissions made beyond this no-late-penalty period will be subject to a late penalty of 25% per day, or portion thereof, including weekends and holidays. Assignments submitted four or more days after the end of the no-late-penalty period will not be marked.

The 48-hour no-late-penalty period is granted only to students with approved accommodation or academic consideration. For students without approved academic consideration, the late penalty applies immediately after the scheduled deadline.

Essential Learning Requirements

Even when Academic Considerations are granted for missed coursework, the following are deemed essential to earn a passing grade.

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.

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

Unless otherwise stated, the use of generative AI tools (e.g., ChatGPT, Microsoft Copilot, Google Gemini, or similar platforms) is **not permitted** in the completion of any course assessments, including but not limited to: assignments, lab reports, presentations, tests, and final examinations.

Using such tools for content generation, code writing, problem solving, translation, or summarization—when not explicitly allowed—will be treated as a **scholastic offence**.

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 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. If you have any questions regarding accommodations, you may also wish to contact Accessible Education at

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

Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) 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 support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Additional student-run support services are offered by the USC, <https://westernusc.ca/services/>.