

MATH 204: PRINCIPLES OF STATISTICS 2

WINTER 2026

Instructor David A. Stephens (david.stephens@mcgill.ca, Burnside 1225)
Textbook *Statistics* (13th Edition)
J. T. McClave and T. Sincich
Purchasing the textbook is not mandatory; the course will follow the structure of Chapters 10–14, but the course materials will be self-contained.

Method of Evaluation: Evaluation for the course will be on the following basis

- **50 % Final Examination**
 - ▶ Examination will be in-person and held during the final exam period.
 - ▶ Please note that the Instructor has no jurisdiction over the date of the final examination.
- **20 % Midterm Examination**
 - ▶ Midterm will be held on **Thursday, 19th February**
 - ▶ Midterm examination will be a written exam covering material up to and including Lecture 12 material.
- **15 % Assignments**
 - ▶ There will be **two** assignments.
 - ▶ Assignments will be a combination of short and long answer questions, submitted electronically.
- **15 % Quizzes**
 - ▶ There will be **eight** quizzes, the best **five** will count for the assessment.
 - ▶ Quizzes will be open-book time-limited short answer myCourses questions.
 - ▶ Quiz topics will be closely related to topics discussed in lectures.

Please see the Course Schedule for the timing of the in-term assessments.

Note: The final grade will be determined by the aggregate score

$$70\% \text{ Final Exam} + 15\% \text{ Assignments} + 15\% \text{ Quizzes}$$

if this score exceeds the principal method of evaluation.

The instructor bears sole responsibility for grading issues. Please contact Prof. Stephens (by email at david.stephens@mcgill.ca) if you have any questions concerning grading of any assessed work.

TARGET COURSE SCHEDULE

Week		Lectures	Topics	Q	A
1	05/01	1–2	Outline. Recap of Hypothesis Testing Concepts		
2	12/01	3–4	Designed Experiments. The Analysis of Variance. The Completely Randomized Design. The ANOVA F-test.		
3	19/01	5–6	Completely Randomized Design Examples and Assumptions	Q1	
4	26/01	7–8	Blocking and Randomized Block Designs. Replication.	Q2	
5	02/02	9–10	Factorial Experiments and multi-factor ANOVA.	Q3	A1
6	09/02	11–12	Parameterization. Illegal Models.	Q4	
7	16/02	13–14	Linear regression models. Probabilistic models. Least-squares.		
8	23/02	15–16	Model assumptions. Hypothesis testing.		
9	02/03	-	Reading Break	-	-
10	09/03	17–18	Correlation. R^2 statistic. Prediction. ANOVA in regression. Residuals.	Q5	
11	16/03	19–20	Polynomial regression. The linear model. Factor predictors. Multiple linear regression. Model selection.	Q6	
12	23/03	21–22	ANOVA and F-tests in multiple regression. Unbalanced designs. Pitfalls.	Q7	A2
13	30/03	23–24	Chi-squared tests for count data. Exact tests. Non-parametric tests.	Q8	
14	06/04	25–26	Non-parametric tests based on ranks.		

- ‘Q’ refers to Quiz number; ‘A’ refers to Assignment number.
- Assessments will usually be released at the end of the week stated.
- Extra (non-assessed) practice quizzes and other materials may be provided.

Policy on Late Submission:

- Late submission of the Quizzes will not be possible due to the time-limited and machine-scored nature of the assessment.
- Late submission of the Assignments may be subject to 100% penalty.
- Requests for accommodation due to extenuating circumstances should be directed to Prof. Stephens, david.stephens@mcgill.ca.

Policy on the use of AI:

- You may use generative AI tools to assist with coding and with the production of text-based answers. However, anything that you submit for assessment must be **your own work**: for example, it must be the result of **your own use** of the AI tools.
- You are responsible for the work you submit: errors resulting from use of AI tools will be penalized in the usual way.

Key Academic Dates: <https://www.mcgill.ca/importantdates/key-dates>

- Add/Drop deadline: Tuesday, January 20th
- Winter Reading Break: March 2nd to March 6th inclusive
- Last lecture: Thursday, April 9th
- Classes end: Tuesday, April 14th

Tutorials & Office Hours:

- There will be two one hour optional tutorials per week; these will begin in Week 2.
- Instructor and Teaching Assistants will also hold weekly Office Hours.

Scheduling details will be announced on myCourses.

myCourses:

- Official communications will take place via myCourses.
- All course materials will be available via myCourses.

David A. Stephens
Department of Mathematics and Statistics
McGill University
January 5, 2026

MCGILL POLICY STATEMENTS

- **Policy on Assessment of Student Learning:** [Policy on Assessment of Student Learning](#)

The purpose of the Policy on Assessment of Student Learning (PASL) is to provide a set of common principles to guide the assessment of students' learning. Per PASL, assessment should be equitable and consistent, and promote effective learning experiences, a healthy learning environment, and academic integrity. Learn more on the For Students page of the PASL website. Also see Faculty of Science-specific rules on the implementation of PASL.

- **Accommodations:**

- ▶ *Legally mandated academic accommodations are handled by Student Accessibility and Achievement. For more information see <https://www.mcgill.ca/access-achieve/>*
- ▶ *Academic considerations for assessments that are missed or late for valid reasons will be provided at the instructor's discretion. Repeated, similar requests for academic considerations in this course are unlikely to be granted.*

- **Language of Submission:** *In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded. This does not apply to courses in which acquiring proficiency in a language is one of the objectives.*

Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté, sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue.

[Charter of Students' Rights](#) (Approved by Senate on 21 January 2009)

- **Academic Integrity:** *McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures*

L'université McGill attache une haute importance à l'honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l'étudiant et des procédures disciplinaires.

[Code of Student Conduct and Disciplinary Procedures](#) (Approved by Senate on 29 January 2003)

- **Extraordinary circumstances:** *In the event of extraordinary circumstances beyond the University's control, the content and/or assessment tasks in this course are subject to change. Students will be advised of the change.*
- **Copyright:** *Instructor-generated course materials (e.g., handouts, notes, summaries, exam questions) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.*