
Mathematical Statistics II
MAT 5191
Winter 2021
(January 11 - April 14.)

1. Instructor

Name: Dr. Clémonell Bilayi-Biakana

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Course Schedule: Mondays and Wednesdays: 5:30 pm - 6:50 pm, online via Zoom.

Office hours: Tuesdays: 5:30 pm - 6:50 pm Online via Zoom.

2. Course Description

Confidence intervals and pivots; Bayesian intervals; optimal tests and Neyman-Pearson theory; likelihood ratio and score tests; significance tests; goodness-of-fit tests; large sample theory and applications to maximum likelihood and robust estimation. This course is equivalent to STAT 5501 at Carleton University.

Prerequisite: MAT 5190.

Textbook: Statistical Inference, 2nd ed., by George Casella, Roger L. Berger.

4. Distribution of Grades and Important Dates

Evaluation and Grading: The final grade will be calculated as follows:

Assignments	20%
Midterm Exam	30%
Final Exam	50%

Study Break: February 15-19, 2021

Midterm Exam: March 1, 2021

The midterm (80 minutes) will be held online during the regular lecture hours.

Final Exam: April 16-29, 2021 (TBD)

The final exam (180 minutes) will be held online during the period April 16-29. The date of the final exam will be announced by the university closer to the end of the term. The final exam is cumulative.

5. Academic Regulations and Class Management

- Respect is a cardinal value that must be shared by all stakeholders in this course in order to maintain enthusiasm and commitment throughout the term.
- All the evaluations will be administrated via Brightspace. Technical requirements for all evaluations are: a standard calculator, a computer or tablet, and a stable internet connection.
- During the tests and while doing your assignments, you can use course material. However, you are NOT permitted to use any external resources, online math forums or discussion groups or get other people advice or help. If caught using any external resource (e.g., you posted a question to chegg.com), the grade of your test will be immediately set to 0 (Zero) and your case will be transferred to the Faculty for further investigations. Be aware that fraudulent activities will be monitored during the tests (there are agreements with several online-tutoring websites, online forums and social networks to monitor IP addresses and the content). It is not allowed to type-in the solutions. Only handwritten (written on paper and then scanned/photocopied or written on a tablet using an electronic pencil) solutions are accepted. Please consult the University regulations on academic fraud 14:

<https://www.uottawa.ca/administration-and-governance/policies-and-regulations>

- Students must write the midterm exam. However, if you miss the midterm test you will receive a zero unless you send to the instructor a proper documented reason (e.g. illness), in which case the weight of the midterm test will be shifted to the final exam. The same rule applies to each assignment.
- There will be no make-up tests. Your tests will typically be handed back to you 10 business days after the test date.
- Any questions concerning grades or the marking must be submitted to the instructor within two business days after the test results are posted in Brightspace. After this period, the grade will be fixed and cannot be discussed or changed. Please note that the instructor does not change your grade on the basis of your needs (grants, scholarships, etc.).

- The exam-review may be required by the instructor if some clarifications are needed with respect to your submitted work. You will be notified by email if it is necessary. During the exam-review Zoom-meeting, the instructor will ask you to switch ON your camera and microphone. During the review, the instructor may ask you to explain your solutions in detail and, if necessary, ask you additional clarification questions. Be aware that during the review, the instructor may downgrade your previously assigned grade as well as upgrade it. Your final grade for the exam will be established based on this review and your submitted exam.
- Students should contact the instructor using only their uOttawa/Carleton email account. The instructor will only reply to email during business days from 8:30 am to 5:30 pm.
- Students are encouraged to join the Zoom meeting 10 minutes before the actual class time, to allow enough time for solving any technical difficulties. At the beginning of the class, students have to wait for the instructor's permission to join, using "Waiting Room" function in Zoom. A waiting room in Zoom is like a virtual hallway outside the classroom where each student waits alone to enter. This function will be disabled after the lecture starts to allow the participants to join at any time. However, all students should make an effort to join on time.
- By default, all participants video will be off. Students are asked to keep it this way (unless asked by the instructor to start their video), to minimize the bandwidth use and improve the quality of the transmission.
- Appointments are limited to 10-15 minutes per student. The "Waiting Room" function in Zoom will be used during the office hours.
- Students are not allowed to rename themselves or share their screens, unless asked by the instructor.
- For copyright and privacy, students cannot record the lectures or share the material of this course with third parties.
- **All of the above in this syllabus (except "Evaluation and Grading") are subject to change.**