

# Stat3558 Course outline: Fall 2022

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**Instructor:** Mohamedou Ould-Haye

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**Place&time:** tutorial UC 378(Thu. 8-9pm) & lectures: UC 378(TR 6:30-8pm)

**Office hours:** TR(10-11am)

**Textbook:** Introduction to mathematical statistics, 8<sup>th</sup> edition,  
By Hogg, McKean, and Craig. Pearson edition.

**Grading:** 4 assignments (20%), 2 tests, online (30%) and final, online (50%).

Late assignments are not accepted. Missed assignments/tests will result in a zero mark, except with documented reason such as dr. note, in which case weight will be shifted to the final. **No makeup** test or assignment.

## The course tentative timetable:

Week/remarks	Section	Details
1-2	1.1-1.10	Probability and distributions, conditional probability, independence, discrete and continuous random variables, transformations, expectations, some inequalities.
3-4 Assignment 1 Due Oct. 15 and Test #1 (covering Ch. 1&2) on Sunday Oct. 23 2-4:30pm	2.1-2.5, 2.8	Joint distribution, expectation, conditional distributions, transformations, correlation, independent variables, linear combinations of random variables.
5-7 Assignment 2 Due Nov. 5th	3.1-3.6	Special distributions, Binomial and related distribution, Poisson, Gamma, chi square, Beta distributions, normal, F and t distributions, Student theorem.
8-10 Assignment 3 Due Nov. 26, and test #2 (covering Ch. 3&4) On Sunday.Nov. 13, 2-4:30pm)	4.1-4.4, 4.8-4.9	Sampling and statistics, estimation methods, Confidence intervals, order statistics, Method of Monte Carlo for simulation, Bootstrap methods for estimation.
11-12 Assignment 4 Due Dec. 9.	5.1.5.3	Consistency and limit theorems, convergence in probability, in distribution, Delta method, moment generating function technique, central limit theorem.

**Final Exam:** There will be a cumulative final exam worth 50% of your term grade. The exam will be scheduled by the University during the exam period (Dec. 10-22). It is the responsibility of each student to be available during the exam period.

**E-Proctoring:** Please note that tests and examinations in this course will use a remote proctoring service provided by Scheduling and Examination Services. You can find more information at

<https://carleton.ca/ses/e-proctoring/>. The minimum computing requirements for this service are as follows:

Hardware: Desktop, or Laptop

OS: Windows 10, Mac OS 10.14, Linux Ubuntu 18.04

Internet Browser: Google Chrome, Mozilla Firefox, Apple Safari, or Microsoft Edge

Internet Connection (High-Speed Internet Connection Recommended)

Webcam (HD resolution recommended)

Note: Tablets, Chromebooks and Smartphones are not supported at this time. Windows-based tablets are not supported at this time.

**Academic Integrity:** Students are required to be familiar with the Academic Integrity Policy at Carleton University. The complete policy is available at: <http://carleton.ca/senate/wp-content/uploads/Academic-Integrity-Policy1.pdf>. **Students who violate the standards of academic integrity relating to any coursework will be required to meet with the Associate Dean of Science (Undergraduate Affairs).** **Intellectual Property:** All course materials are protected by copyright and remain the intellectual property of the instructor. Students registered in the course may only use course materials for their own educational use. Students are not permitted to reproduce or distribute lecture notes or other course material publicly for commercial or non-commercial purposes without express written consent from the instructor.

#### **Requests for Academic Accommodation**

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

##### **Pregnancy obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: [carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

##### **Religious obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: [carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

#### **Academic Accommodations for Students with Disabilities**

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. [carleton.ca/pmc](http://carleton.ca/pmc)

#### **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and is survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: [carleton.ca/sexual-violence-support](http://carleton.ca/sexual-violence-support)

#### **Accommodation for Student Activities**

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided

to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

#### **COURSE POLICIES:**

1. Concerns about grading on assignments or the midterm exam must be brought to the instructor's attention within three business days of these grades being available for review. We will not regrade individual assignment or exam questions, but you may request a complete regrade of your entire assignment or test. Please note a regrade may result in an increase, decrease, or no change in your grade.
2. Students who need to miss the midterm exam for a valid reason must complete the [self-declaration form](#) within 3 business days of the test and email it to the instructor. Students who correctly follow this procedure will have the weight of the midterm exam added to the weight of the final exam. Failure to follow this procedure will result in a grade of 0% on midterm exam.
3. Any student wishing to review their final exam must make an appointment within a two-week period following the submission of the final grades. These appointments are solely for educational purposes and are **not** to be treated as an opportunity to debate your grade.
4. **Students are required to obtain a minimum score of 50% on the final exam.** Students who fail to do so may be assigned a grade of **F** in the course at the discretion of the instructor.
5. All dates and times stated within the context of this course are local Ottawa time.
6. In assigning course letter grades, final numerical grades are viewed as continuous, and grades are not automatically rounded up. A student must definitively earn the lower numerical limit of a letter grade category to receive that letter grade.
7. You must use your Carleton email account for all email communications. I am unable to respond to non-Carleton emails due to FIPPA (Freedom of Information and Protection of Privacy Act).|
8. All assignments and exams in the course will be submitted online. A document entitled *Submission Instructions* will be posted on the course page in Brightspace. Any submissions not following the *Submission Instructions* will not be accepted for credit.
9. Students wishing to see their examination papers must make an appointment within 3 weeks of the examination. This privilege is for students to learn and is not an opportunity to argue about the marking.

#### **New changes:**

1. New withdrawal date: Per the Provost's email sent on August 8 (see excerpt below), the academic withdrawal date has been moved up from the last day of term to earlier in the term; this Fall it is November 15, 2022.

A full list of important dates is available on the Calendar website. Please note that the academic withdrawal dates have changed recently. Consult the Calendar website for the most updated information: <https://calendar.carleton.ca/academicyear>

2. Compassionate Grading Policy: The compassionate grading policy from the previous two years (SAT/UNS) is no longer in effect. However, there will be some lenient grading for students coming straight out of high school for their first two terms. The details of this are still being processed, and communication from the provost will come sometime soon. Students should check the provost's website, where the most up to date information can be found.