

# Stat3558 Course outline

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**Instructor:** Mohamedou Ould-Haye

**Office:** HP5239

**Tel.** 613 520 2600 x 1287

**Place:** tutorial & lectures: TB215.

**Time:** 11:30am-12:30pm (F, tutorial) & 1-2:30pm (WF, lectures)

**Office hours:** 11am-12pm (W) and 1-2pm (Th.)

**Textbook:** Introduction to mathematical statistics, 7<sup>th</sup> edition,  
By Hogg, McKean, and Craig. Pearson edition.

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

Late assignments are not accepted. Missed assignments/tests will result in a zero mark, except with documented reason, where mark will be added to the final. **No makeup** test or assignment.

Week	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. 17 and Test #1 (covering Ch. 1&2) on Fri. Oct.20, 6pm, place TBA.	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 Oct. 31	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. 14, and test #2 (covering Ch. 3&4) On Fri. Nov. 16, 6pm, place TBA.	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. 5.	5.1.5.3	Consistency and limit theorems, convergence in probability, in distribution, Delta method, moment generating function technique, central limit theorem.