

STAT 465 (MAST 679/MAST 881), Sec. K
Multivariate Analysis
Winter 2020

Instructor: Dr. A. Sen, Office: LB 921-23 (SGW), Phone: 514-848-2424, Ext. 3230
Email: arusharka.sen@concordia.ca

Office Hours: *Wed, Thu. 15:00 – 17:00, and by appointment.*

Text: *Applied Multivariate Statistical Analysis*, 6th Edition, by R. A. Johnson and D. W. Wichern, Pearson Prentice Hall (2007).

Other Reference: *Linear Statistical Inference and Its Applications*, 2nd Edition, by C. R. Rao, Wiley (1973).

Final Grade: The larger of (**Assignments** 15% + **Mid-term test (Fri, 21 February 2020)** 25% + **Final examination** 60%) and **Final examination** 100%.

No makeup midterm or assignments.

If the grading scheme for this course includes graded assignments, a reasonable and representative subset of each assignment may be graded. Students will not be told in advance which subset of the assigned problems will be marked and should therefore attempt all assigned problems.

Note:

1. Assignments are compulsory. Late assignments will not be accepted.
2. A mid-term exam will be held on **Friday, 21 February 2020**. This exam, as well as the final, will be closed book exams.
3. For students in MAST 679K/881K, additional reading material, problems and/or a project will be included in assignments.

Week	Topics to be Covered	Sections
1	Matrix Algebra & Random Vectors	2.2-2.5
2	Matrix Algebra & Random Vectors	2.6-2.7 & Supplement
3	The Multivariate Normal Distribution	4.1-4.5
4	The Multivariate Normal Distribution	4.6-4.8
5	Inferences about a Mean Vector	5.1-5.4
6	Inferences about a Mean Vector	5.5-5.8
7	Comparisons of Several Multivariate Means	6.1-6.2 MID TERM TEST
8	Comparisons of Several Multivariate Means	6.3-6.6
9	Principal Components	8.2-8.4
10	Factor Analysis and Inference for structured covariance matrices	9.1-9.4
11	Canonical Correlation Analysis	10.2-10.6
12	Discrimination and Classification	11.1-11.5
13	Discrimination and Classification & Review	11.6-11.8

Academic Integrity and the Academic Code of Conduct

This course is governed by Concordia University's policies on Academic Integrity and the Academic Code of Conduct as set forth in the Undergraduate Calendar and the Graduate Calendar. Students are expected to familiarize themselves with these policies and conduct themselves accordingly. "Concordia University has several resources available to students to better understand and uphold academic integrity. Concordia's website on academic integrity can be found at the following address, which also includes links to each Faculty and the School of Graduate Studies: concordia.ca/students/academic-integrity." [*Undergraduate Calendar, Sec 17.10.2*]