

STA4702 - STA5707 Applied Multivariate Analysis FALL 2025

Days/Time/Room: TT 11:35 AM -12:50 PM OSB 108

Professor: Vic Patrangenaru

Office: OSB 208

E-mail: vic@stat.fsu.edu

Office hours: TT 1:00 PM - 1:30 PM

Grader : Mr. Musab Alamoudi

E-mail: mma21k@fsu.edu

Textbook: Applied Multivariate Statistical Analysis, by Richard A. Johnson, Dean W. Wichern, 6th Edition, 2007, Prentice Hall. ISBN-10: 0131877151, ISBN-13: 978-0131877153. In addition class notes are going to be posted online at www.stat.fsu.edu/vic/TBA

Acceptable Software: SAS, MINITAB or MATLAB.

Prerequisite: One of STA 5746, 5167, 5207, 5327, 4322 or equivalent

Course description: Any measurable object has multiple aspects to it, that are described by numbers or categories, giving rise to multivariate data. This course is concerned with statistical theory for describing and analyzing multivariate data. **Course**

Objectives/Written Student Learning Outcomes: Students will be provided with the supporting knowledge necessary for making proper studying of such data, selecting appropriate techniques, and understanding their range of applicability.

Random vectors and associated sampling distributions, multivariate normal distributions, inference about mean vectors and covariance matrices, canonical correlation, principal components, discriminant analysis, cluster analysis, Procrustes analysis and some related techniques are the main topics of our class.

The following chapters from the textbook will be partially covered: 1 - 6, 8, 10 - 12. Time permitting we will also cover partially chapters 7, 9 or other topics in multivariate data analysis. Additional references will be given in class.

Attendance policy: Active attendance adds up to 5 bonus points. If you miss classes without a formal excuse, the extra-credit is lost.

Aug. 28, 2025 is the last day to add courses without academic dean's permission or to drop/add classes and have fees adjusted. For other important dates, including undergraduate student final exam see

<https://registrar.fsu.edu/registration-guides/fall-academic-calendar/>

The course letter grade is based on the following final percentages scale

$$F < 60\% \leq D- < 63.3\% \leq D < 66.6\% \leq D+ < 70\% \leq C- < 73.3\% \\ \leq C < 76.6\% \leq C+ < 80\% \leq B- < 83.3\% \leq B < 86.6\% \leq B+ < 90\% \leq A- < 93.3\% \leq A$$

Grading(tentative): The course grade will be calculated on the basis of hw (30%), a midterm exam (35%), the date of which will be announced in class, a final exam presentation (35%) on or before December 8.

Honor Code: Students are expected to be uphold the Academic Honor Code as described in the FSU General Bulletin or in the FSU Student Handbook.

Disclaimer: This syllabus provides a general plan; deviations may be necessary.