Syllabus
Spring 2026
STA4702 Multivariate Statistical Analysis
STA5701 Applied Multivariate Methods
Department of Statistics, University of Florida

Course information.

Lectures	Mo, We, Fr, 09:35am–10:25am in Anderson Hall 0134		
Instructor	Ekvall, Karl Oskar	*Teaching Assistant*	Huang, Zhuochao
Office	205 Griffin–Floyd	*Office*	–
Email	k.ekvall@ufl.edu	*Email*	zhuochao.huang@ufl.edu
Office phone	352-273-3001		
Office hours	Mo 8:30am–9:30am	*Office hours*	–
	We 10:30am–11:30am		–

Course objective. STA4702/5701 introduces statistical methods for settings where there is more than one variable of interest. After successful completion of the course, students will be familiar with several popular methods for multivariate statistical analysis, including methods for dimension reduction, regression, clustering, classification, multivariate time series, and graphical analysis. The focus is on the application of methods, typically using the statistical computing language `R`, but motivating theory and underlying assumptions are also discussed.

Course topics. Topics include graphics and basic programming in `R`, matrix algebra, the multivariate normal distribution, maximum likelihood estimation, multivariate linear regression, factor methods, principal components analysis, discrimination and classification, hierarchical and K-means clustering, longitudinal data, and vector autoregressive models.

Prerequisites. (STA 3024 or STA 4210 or STA 4322 or STA 6127 or STA 6167) and (MAS 3114 or MAS 4105 or the equivalent).

Course webpage. Course materials (e.g., homework assignments and due dates) will be posted on the course's eLearning site (Canvas), where grades will also be posted. Please check this site regularly for updates and announcements.

Textbook. Please note that access to the following textbook is required as there will be weekly assigned readings: R.A. Johnson and D.W. Wichern (2007). Applied Multivariate Statistical Analysis, 6th Ed.

Assessment. Course grades will be based on quizzes and homework assignments. The final score (0–100) will be 0.5 times the average of the best eight quiz scores, out of a total of nine

quizzes, plus 0.5 times the average score on four homework assignments. Letter grades will be assigned based on the following cutoffs:

Grade	Percentile
A	93% - 100%
A-	90% - 92.99%
B+	87% - 89.99%
B	83% - 86.99%
B-	80% - 82.99%
⋮	⋮
D-	60% - 62.99%
F	Below 60%

The instructor may adjust cutoffs downward when assigning final course grades. Homework assignments will be submitted and graded electronically through the course eLearning site. Submission must be written in R Markdown or Quarto, but the instructor will only provide assistance with R Markdown.

Tentative course schedule.

Date	Assessment
1/23	Quiz 1
1/30	Quiz 2
2/6	Homework 1 due
2/13	Quiz 3
2/20	Quiz 4
2/27	Homework 2 due
3/6	Quiz 5
3/13	Quiz 6
3/27	Homework 3 due
4/3	Quiz 7
4/10	Quiz 8
4/17	Homework 4 due
4/22	Quiz 9

Missed exam or homework. Missed exams and late homework assignments will receive a grade of zero, except in cases of emergency. If an exam or homework will be missed for a non-emergency reason, the student must notify the instructor *at least two weeks prior* to the exam date and provide proper documentation. When an exam is missed or a homework assignment is late for a medical reason, a doctor's note or equivalent documentation should be provided.

University Policies and Student Resources. This course complies with all UF academic policies. For information on university policies, including attendance, make-up policies, disability accommodations, and additional resources available to students, please visit the following link: `https://go.ufl.edu/syllabuspolicies`