

**TURKISH NATIONAL POLICE ACADEMY
INSTITUTE OF FORENSIC SCIENCES**

Course Code	APİ-304
Name of the Course	Advanced Multivariate Statistics
Required / Elective	Elective
AKTS	7,5
Semester	Spring
Programme	ADLI PSİKOLOJİ

COURSE DESCRIPTION

An understanding of advanced multivariate statistical methods is necessary for all students pursuing graduate degrees. The general goal of the course is to familiarize students with popular multivariate statistical procedures and data analysis, so that they can decide on appropriate methods and apply them.

A basic understanding of some of important multivariate statistics (i.e., MANOVA, MANCOVA, SEM, and HLM) has become necessary for students pursuing advanced degrees in the behavioral sciences. Many have claimed that the development of these statistical procedures represents the most important new quantitative methodology in these disciplines of the last twenty years.

Although students will not be expected to become expert statisticians, it is expected that given a specific research situation, students will know which statistical techniques to consider, select a technique appropriately, and be able to interpret an analysis of research data.

COURSE OBJECTIVES

This course is designed so that students can: (1) become familiar with some of important multivariate statistics (i.e., MANOVA, MANCOVA, SEM, and HLM), (2) understand and critique research studies with respect to the statistical analysis, (3) select an appropriate model, and (4) apply the appropriate model and interpret the results.

EVALUATION

Midterm exam, final exam, assignments.

COURSE PLAN

WEEK 1	Syllabus & Intro
WEEK 2	ANOVA
WEEK 3	ANCOVA
WEEK 4	MANOVA
WEEK 5	MANCOVA
WEEK 6	Profile Analysis
WEEK 7	Canonical Correlation
WEEK 8	Midterm Exam
WEEK 9	Path Analysis
WEEK 10	Principal Components Analysis - Exploratory Factor Analysis

WEEK 11	Confirmatory Factor Analysis
WEEK 12	Structural Equation Modeling
WEEK 13	Hierarchical Linear Modeling
WEEK 14	Review for final

Suggested Bibliography for the Course:

Pituch, K. A., & Stevens, J. P. (2015). *Applied Multivariate Statistics for the Social Sciences: Analyses with SAS and IBM's SPSS*. (6th ed).