

Module Code:	STAT-414
Module Title:	Multivariate Analysis (Theory) – 3 Credit Hours
Name of Scheme:	BS Statistics (Specialization)

Course Outline

The Hotelling's T^2 distribution. The linear discriminant function, Mahalanobis distances. Tests of hypotheses and confidence intervals for mean vectors: One sample and two-sample procedures. Multivariate statistical procedures: Discriminant analysis, Principal component analysis, Factor analysis, and Canonical correlation analysis.

Books Recommended

1. Johnson, R.A., & Wichern, D.W. (2008). *Applied multivariate statistical analysis*. Pearson Education: Singapore.
2. Anderson, T.W. (2003). *An introduction to multivariate statistical analysis* (3rd ed.). John Wiley & Sons: New York.
3. Rencher, A.C. (2002). *Methods of multivariate analysis* (2nd ed). John Wiley & Sons: New York.
4. Tabachnick, B.G., & Fidell, L.S. (2006). *Using multivariate statistics* (5th ed.). Allyn & Bacon: Boston.
5. Bhuyan, K.C. (2008). *Multivariate analysis and its applications*. New Central Book Agency: Kolkata.
6. Chatfield, C., & Collins, A.J. (1980). *Introduction to multivariate analysis*. Chapman and Hall: London.

Reference Books

1. Morrison, D.F. (1990). *Multivariate statistical methods* (3rd ed.). McGraw Hill Publishing Co.: New York.
2. Kandall, M.G., & Stuart, A. (1983). *The advanced theory of statistics* (4th ed.). Charles Griffin and Company: London.
3. Rao, C.R. (1973). *Linear statistical inference and its applications* (2nd ed.). John Wiley and Sons: New York.