

Module Descriptions

A **module** is a self-contained **learning unit** within a higher education program that includes thematically related courses and is assigned a **fixed number of credits**. It follows specific **learning objectives**, includes an **assessment component**, and contributes to achieving the qualifications of a degree program. In some countries, “modules” are also named “courses”.

Please provide a module description for each module. In addition to the compulsory and elective modules, this also includes credited internships and the final thesis.

Please summarize all module descriptions in one document (Module Handbook) and create a table of contents so that the modules can be found easily.

Module designation	<i>Statistics.</i>
Semester(s) in which the module is taught	<i>1</i>
Person responsible for the module	<i>Prof. Dr. Dhoriva Urwatul Wustqa M.S. Prof. Kismiantini S.Si., M.Si., Ph.D. Dr. Retno Subekti S.Si., M.Sc.</i>
Language	<i>Indonesian</i>
Relation to curriculum	<i>Compulsory</i>
Teaching methods	<i>Lecture and discussion</i>
Workload (incl. contact hours, self-study hours)	<i>Total workload is 90.67 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes self-study per week for 16 weeks.</i>
Credit points	<i>2</i>
Required and recommended prerequisites for joining the module	<i>-</i>
Module objectives/intended learning outcomes	<i>After taking this course the students have ability to:</i> <i>CO1. Understanding the concepts and aspects of multivariate analysis.</i> <i>CO2. Exploring the concepts and aspects of random matrices and vectors.</i> <i>CO3. Analyzing the concepts and aspects of multivariate analysis for comparing multiple mean vectors.</i> <i>CO4. Examining the concepts and aspects of multivariate analysis of variance.</i> <i>CO5. Exploring the concepts and aspects of assumptions in multivariate analysis of variance.</i> <i>CO6. Understanding the concepts and aspects of multivariate analysis of covariance.</i> <i>CO7. Analyzing the concepts and aspects of assumptions in multivariate covariance analysis.</i>

Content	<i>This statistics course covers various aspects of multivariate statistics, from inference on mean vectors to multivariate techniques, including multiple regression analysis along with its computation using statistical software packages such as SPSS or R.</i>
Examination forms	<i>Oral presentation, project, and written test.</i>
Study and examination requirements	<i>The course assessment is divided into two main components:</i> 1. Cognitive Assessment (50%) <i>This includes the following elements:</i> ○ Midterm Exam (UTS): 30% ○ Final Exam (UAS): 20% 2. Participatory Assessment (50%) <i>This includes:</i> ○ Case Study: 25% ○ Team-Based Project: 25% Total: 100%
Reading list	1. Johnson R. A. and Winchern D. W. .2007. <i>Applied Multivariate Statistical Analysis</i>. Upper Saddle River, New Jersey : Pearson Prentice Hall 2. Rencher, A.C. 1998. <i>Multivariate Statistical Inference and Applications</i>. New York : John Wiley & Sons, Inc. 3. Stevens J. 2009. <i>Applied Multivariate Statistics for the Social Sciences</i>. New York : Routledge 4. Huberty C.J. and Olejnik S. 2006. <i>Applied MANOVA and Discriminant Analysis</i>. New Jersey. John Wiley & Sons, Inc. 5. Kirk, R.E. 1995. <i>Experimental Design: Procedures for the Behavioral Sciences</i>. California: Brooks/Cole Publishing Company.