

Description of Course Unit

Course unit title	Applied Multivariate Method
Course unit code	VS191701
Type of course unit (compulsory, optional)	compulsory
Level of course unit (according to EQF: first cycle Bachelor, second cycle Master)	first cycle Bachelor
Year of study when the course unit is delivered (if applicable)	
Semester/trimester when the course unit is delivered	7
Number of ECTS credits allocated	4,8
Name of lecturer(s)	Sri Pingit Wulandari, Mike Prastuti, Mukti Ratna Dewi and Iis Dewi Ratih
Learning outcomes of the course unit	<ul style="list-style-type: none"> - Students are able to explain the matrix concept that is often used in multivariate analysis - Students are able to perform data preprocessing using multivariate methods, which include detection of missing values, outliers and checking assumptions - Students are able able to explain the concept of testing the average vector hypothesis for one and two populations from a multivariate normal distribution - Students are able able to explain the concept of MANOVA and be able to apply it in real problems - Students are able able to explain PCA concepts and be able to apply them in real problems - Students are able able to explain the concept of factor analysis and be able to apply it in real problems - Students are able able to explain the concept of discriminant analysis and be able to apply it in real problems - Students are able able to explain the concept of cluster analysis and be able to apply it in real problems - Students are able to apply correspondence analysis in real problems
Mode of delivery (face-to-face, distance learning)	Face to face
Prerequisites and co-requisites (if applicable)	Regression Method
Course content	<ol style="list-style-type: none"> 1. Basic concepts of multivariate analysis 2. Data preprocessing (missing value detection, data outlier detection, assumption checking) 3. Normal multivariate distribution 4. Test the vector mean of one and two populations 5. Manova 6. Principal component analysis 7. Factor analysis 8. Discriminant analysis 9. Cluster analysis
Recommended or required reading and other learning resources/tools	Johnson, R.A and Wichern, D.W. "Applied Multivariate Statistical Analysis". 6th Edition, Prentice Hall, New York. 2007

Planned learning activities and teaching methods	Problem Based Learning, Blended Learning
Language of instruction	Indonesian Language
Assessment methods and criteria	Assignment, Quiz, Midterm Exam and Final Exam.

