Number of Module	Name of Module	Lecturer
VW-ATL-51a	Applied Multivariate Statistics	Prof. Ostap Okhrin ostap.okhrin@tu-dresden.de
Qualification Aim	Students possess comprehensive knowledge of key multivariate statistical methods, such as cluster analysis, regression analysis, analysis of variance, discriminant analysis, and factor analysis, and apply these methods in a practical manner when analyzing real-world datasets. They are able to develop predictive models and apply classification methods based on data. Students possess key competencies in rhetoric, presentation techniques, and teamwork.	
Content	The module covers the following topics: 1. Linear algebra, 2. Principal component analysis, 3. Factor analysis, 4. Correspondence analysis, 5. Canonical correlation analysis, 6. Multidimensional scaling, 7. Discriminant analysis, and 8. Linear and logistic regression.	
Teaching and Learning Methods	2 SWS lecture, 2 SWS tutorial, and independent study. In accordance with Section 6, Paragraph 7 of the Academic Regulations, enrollment in the lecture and the seminar is limited to 30 students.	
Requirements for Participation	The competencies to be acquired in the module Theoretical Multivariate Statistics are required.	
Usability	This module is one of 27 elective modules in the master's degree program Air Transport and Logistics, which must be chosen according to § 32 paragraph 3 of the examination regulations.	
Requirements for the Award of Credits	Credit points are earned when the module examination is passed. The module exam consists of a combined term paper requiring 70 hours of work. The exam is conducted in English.	
Credit Points and Grades	5 credit points can be acquired through the module. The module grade corresponds to the grade of the examination performance.	
Frequency of Module	The module is offered each academic year in the summer semester.	
Workload	The total workload is 150 hours.	
Duration of the Module	The module lasts one semester.	
Literature	Backhaus, K., Erichson, B., Plinke, W., Weiber, R.: Multivariate Analysemethoden: Eine anwendungsorientierte Einführung, Springer Verlag, 12. Edition. Härdle, W., Simar, L.: Applied Multivariate Statistical Analysis,	

	Springer Verlag, current edition. Härdle, W., Hlavka, Z.: Multivariate Statistics: Exerci-ses and Solutions, Springer Verlag, current edition.