Course Descriptions None 2022-2023

Course Title	Linear Algebra
Course Code	BENC1004
ECTS Credits	5,0
Assessment	Whole/Half Grades

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
2	31-10-2022	16-12-2022		X		X	L

Level	no level
Coordinator	Stefan Maubach For more information:s.maubach@maastrichtuniversity.nl
Language of instruction	English
Goals	* Students have the knowledge on the fundamental concepts of linear algebra, including vectors, matrices, systems of linear equations, eigenvalues, eigenvectors, linear transformations, and orthogonality. * Students will be able to look at the same problem from different angles and they will learn to switch their point of view (from geometric to algebraic and vice versa). * Students will recognize that linear algebra can be applied to problems from different disciplines. * Students will obtain the insight that various seemingly different questions all can boil down to the same mathematical problem of solving a system of equations. * Students can argue (in a sometimes abstract way) which approach may or may not work. * Students are able to give clear arguments to support their solutions in a mathematically correct manner. * Students will be able to understand and write the language of linear algebra.
Description	PLEASE NOTE THAT THE INFORMATION ABOUT THE TEACHING AND ASSESSMENT METHOD(S) USED IN THIS COURSE IS WITH RESERVATION. A RE-EMERGENCE OF THE CORONAVIRUS AND NEW COUNTERMEASURES BY THE DUTCH GOVERNMENT MIGHT FORCE COORDINATORS TO CHANGE THE TEACHING AND ASSESSMENT METHODS USED. THE MOST UP-TO-DATE INFORMATION ABOUT THE TEACHING/ASSESSMENT METHOD(S) WILL BE AVAILABLE IN THE COURSE SYLLABUS. This is a course on the study of linear transformations on linear vector spaces. The course introduces these notions both from an algebraic and geometric point of view. Applications such as solving systems of linear equations are discussed. Key concepts are vectors, matrices, linear transformations, eigenvalues, eigenvectors, inner product, orthogonality.
Literature	* David C. Lay, Steven R. Lay, Judi J. McDonald, (2016), Linear Algebra and its Applications, 5th ed., Pearson, ISBN 978-1-292-09223-2.
Prerequisites	No prerequisites are required.
Keywords	Linearity and linear independence, matrix algebra, determinants, vector spaces, eigenvalues and eigenvectors, orthogonality
Teaching methods	PBL / Lecture
Assessment methods	Written Exam
Evaluation in previous academic year	For the complete evaluation of this course please click http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM

This course belongs to the following programme / specialisation	Bachelor Business Engineering — Year 1 Compulsory Course(s)