

Course Descriptions Bachelor 2020-2021

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|---|--|------------|------------|-----|-----------------------------|-----|-----|-----|
| 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 | 26-10-2020 | 11-12-2020 | | X | | X | |
| Level | no level | | | | | | | |
| Coordinator | Marieke Musegaas For more information:m.musegaas@maastrichtuniversity.nl | | | | | | | |
| Language of instruction | English | | | | | | | |
| Goals | <ul style="list-style-type: none">* 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 | <p>PLEASE NOTE THAT THE INFORMATION ABOUT THE TEACHING AND ASSESSMENT METHOD(S) USED IN THIS COURSE IS WITH RESERVATION. THE INFORMATION PROVIDED HERE IS BASED ON THE COURSE SETUP PRIOR TO THE CORONAVIRUS CRISIS. AS A CONSEQUENCE OF THE CRISIS, COURSE COORDINATORS MAY BE FORCED 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.</p> <p>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.</p> | | | | | | | |
| Literature | <ul style="list-style-type: none">* 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) | | | |