Course Descriptions Bachelor 2023-2024

Course Title	Probability Theory
Course Code	EBC1024
ECTS Credits	6,5
Assessment	Whole/Half Grades

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
4	5-2-2024	28-3-2024		X		X	L
5	15-4-2024	7-6-2024		X		X	L

Level	Introductory
Coordinator	Michael Eichler For more information:m.eichler@maastrichtuniversity.nl
Language of instruction	English
Goals	The purpose of the course is to introduce students to formal probabilistic concepts that are required for a theoretical understanding of statistical and econometric concepts. Students should be able to apply the acquired methods to problems in econometrics, economics, finance, and other fields.
Description	Probability theory is the branch of mathematics concerned with analysis of random phenomena. It thus forms the mathematical foundation of statistics and is essential for understanding the quantitative analysis of large sets of data. The course covers the key concepts and tools from probability theory that are required at later points in the programme. Important topics are random variables and probability distributions, dependence between multiple random variables, and convergence of random variables. The course starts in period 4 and continues until the end of period 5.
Literature	Casella G. & R.L. Berger, Statistical Inference, 2nd edition, Duxbury Press, Thomson Learning, 2002. ISBN 0-534-24312-6. (We cover the first five chapters in this course. The sequel of the same book, Chapters 6-11, will be covered in the follow-up course Mathematical Statistics, code EBC2107).
Prerequisites	Differential and integral calculus, elements of mathematical analysis, linear algebra, and set theory.
Teaching methods	Lecture / Assignment
Assessment methods	Participation / 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 Econometrics and Operations Research	Year 1 Compulsory Course(s)