Syllabus

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Titul dl curs	Matematica per le applicazioni economiche
Codesc dl curs	27356
Titul suplementar	
SSD	
Lingaz	Inglese
Curs de laurea	Corso di laurea in Economia e Management
D'autri cursc de laurea (cursc deberieda)	
Dozenc	prof. dr. Martin Meier, Martin.Meier@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/50913 dr. Paolo Maraner, Paolo.Maraner@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/12920
Assistent didatich	
Semester	Tutti i semestri
Ann/Agn de stude	1
Credic universitars	12
Ores de ensegnament	36+36
Ores de laboratore	60+60
Ores de stude individual	-
Ores de receviment prevedudes	18+18
Ressumé di contegnus	M1: The course "Mathematics for Economists M1" deals with basic mathematical concepts like sets, relations, functions, numbers, limits and absolute values. Moreover we will introduce functions of one variable by studying their basic properties, derivatives and their calculus, Taylor approximations and the Newton's method. We will also address the single-variable optimization (Fermat's rule

	and sufficient optimality conditions) and the elements of integration. M2: In this course we study linear algebra and functions of several variables.
Argomenc dl curs	M1: Sets, relations, functions. Basic algebra, numbers, approximations, sequences and their limits, series, geometric series. Real functions (polynomial, rational, irrational, exponential and logarithmic functions), limits of functions, differentiation,Taylor approximations, Newton's method, convexity, single variable optimization, integration. M2: 1. Matrix calculus, rank and linear independence, systems of linear equations, Gaussian elimination, applications. 2. Functions of several variables: gradients, Hesse matrices, Taylor approximation, convexity. 3. Multivariable optimization, Lagrange method and economic applications. Simple least square regression. 4. If enough time remains: Basics of probability theory.
Paroles clef	mathematics for economists, sets, relations, functions, linear algebra, optimization
Prerecuisic aconsiés	none
Cursc propedeutics	none
Modalité de ensegnament	Lectures and exercise sessions
Oblianza de frecuenza	
Obietifs formatifs y competenzes da arjonje	ILO 1 Knowledge and understanding ILO 1.1 knowledge of basic and intermediate level mathematical tools for understanding and analysing economic mechanisms through theoretical models and empirical applications ILO 2 Apply knowledge and understanding ILO 2.1 know how to analyse (unconstrained) optimisation problems and mathematically interpret models of social and economic dynamics ILO2.2 knowing how to work with basic and intermediate level mathematical and basic level statistical tools to study the behaviour of economic subjects, from a theoretical and empirical point of view

	ILO 3 Making judgements ILO 3.1 choose the most appropriate quantitative and qualitative methods of analysis ILO 4 Learning skills ILO 4.1 analyse, critically process and integrate data, information and future experience, also using advanced software
Obietifs formatifs y competenzes da arjonje (informazions suplementares)	
Sort de ejam	M1: A written final exam (questions and problems to solve) which counts 100% for the M1 partial grade. ILO 1.1, ILO 2.1, ILO 3.1, ILO 4.1. M2: A written final exam (questions and problems to solve) which counts 100% for the M2 partial grade. ILO 1.1, ILO 2.1, ILO 3.1, ILO 4.1. The final mark is the average of the marks of M1 and M2 - There is no different assessment for attending and non-attending students.
Criters de valutazion	Final grade: 50% grade for M1 partial grade, 50% for M2 partial grade. The results of assignments and partial exams are only valid for the academic year in question. They cannot be carried over beyond that time frame.
Bibliografia obligatora	Lecture Slides that will be uploaded in the reserve collection.
Bibliografia aconsieda	None.
Deplù informazions	
OSS	Sconfiggere la povertà, Partnership per gli obiettivi, Buona salute, Istruzione di qualità, Parità di genere, Acqua pulita e servizi igenico-sanitari, Energia rinnovabile e accessibile, Buona occupazione e crescita economica, Innovazione e infrastrutture, Ridurre le disuguaglianze, Città e comunità sostenibili, Utilizzo

	responsabile delle risorse, Lotta contro il cambiamento climatico, Utilizzo sostenibile del mare, Utilizzo sostenibile della terra, Pace e giustizia, Sconfiggere la fame

Modul

Titul	Mathematics for Economists 1
Codesc dl curs	27356A
SSD	STAT-04/A
Lingaz	Inglese
Dozenc	prof. dr. Martin Meier, Martin.Meier@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/50913
Assistent didatich	
Semester	Primo semestre
Credic universitars	6
Dozent/a responsabel/bla	
Ores de ensegnament	36
Ores de laboratore	60
Ores de stude individual	
Ores de receviment prevedudes	18
Ressumé di contegnus	The course "Mathematics for Economists M1" deals with basic mathematical concepts like sets, relations, functions, numbers, limits and absolute values. Moreover we will introduce functions of one variable by studying their basic properties, derivatives and their calculus, Taylor approximations and the Newton's method. We will also address the single-variable optimization (Fermat's rule and sufficient optimality conditions) and the elements of integration.
Argomenc dl curs	Sets, relations, functions. Basic algebra, numbers, approximations, sequences and their limits, series, geometric series. Real functions (polynomial, rational, irrational, exponential and logarithmic functions), limits of functions, differentiation,Taylor approximations, Newton’s method, convexity, single variable optimization, integration.

Modalité de ensegnament	Lectures and exercise sessions.
Bibliografia obligatora	Lecture notes provided in due course (available in the Reserve Collection).
Bibliografia aconsieda	

Modul

Titul	Mathematics for Economists 2
Codesc dl curs	27356B
SSD	STAT-04/A
Lingaz	Inglese
Dozenc	prof. dr. Martin Meier, Martin.Meier@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/50913
Assistent didatich	
Semester	Secondo semestre
Credic universitars	6
Dozent/a responsabel/bla	
Ores de ensegnament	36
Ores de laboratore	60
Ores de stude individual	
Ores de receviment prevedudes	18
Ressumé di contegnus	In this course we study linear algebra and functions of several variables.
Argomenc dl curs	1. Matrix calculus, rank and linear independence, systems of linear equations, Gaussian elimination, applications. 2. Functions of several variables: gradients, Hesse matrices, Taylor approximation, convexity. 3. Multivariable optimization, Lagrange method and economic applications. Simple least square regression. 4. If enough time remains: Basics of probability theory.
Modalité de ensegnament	Lectures and exercise sessions.

Bibliografia obligatora	Lecture notes provided in due course (available in the Reserve Collection)
Bibliografia aconsieda	