

BACHELOR COURSES OFFERED IN ENGLISH LANGUAGE -FALL SEMESTER 2022-2023

MAS 191.1

MAS 191 Mathematics with Computers (8 ECTS) MATLAB's environment. MATLAB functions. For, while and if loops. Graphics in two and three dimensions. DEPARTMENT OF ECONOMICS 681 Programming. Polynomials. Reading from and writing in files. Computer arithmetic and error propagation. Symbolic computing. Special topics and applications (solution of nonlinear algebraic equations and linear systems, eigenvalue problems, numerical integration, ordinary differential equations).

MAS 261

MAS 261 Introduction to Probability (7 ECTS) Probability, random variables, distribution functions, independence, expected value, moment generating functions, random vectors, conditional distribution, conditional expected value, laws of large numbers, central limit theorem.

~~MAS 262.1/MAS 262.2~~

~~MAS 262 Statistics I (7 ECTS) Random samples, statistical experiments, statistics, estimation methods (e.g. method of moments, method of maximum likelihood), properties of estimators (e.g. unbiasedness, sufficiency, completeness), exponential families, Rao-Blackwell theorem, Lehmann-Scheffe theorem, Cramer-Rao variance lower bound, confidence intervals, minimum length confidence intervals, hypotheses testing, properties of tests. Statistics, sufficiency, completeness, exponential families, unbiasedness, uniformly minimum variance unbiased estimators, Cramer-Rao lower bound, moment estimators, maximum likelihood estimators, confidence intervals, hypothesis testing.~~

MAS 271

MAS 271 Numerical Analysis I (7 ECTS) Sources and propagation of error. Numerical solution of non-linear equations. Numerical solution of linear systems of equations. Polynomial interpolation. Numerical quadrature.

MAS 302

MAS 302 Complex Variables I (7 ECTS) Complex numbers, analytic functions, Cauchy-Riemann equations. Harmonic functions. Exponential, trigonometric and logarithmic functions. Integration, Cauchy's theorem, Cauchy's integral formulas and inequalities. Liouville theorem and the fundamental theorem of Algebra. Maximum modulus principle. Taylor and Laurent series, residues. The argument principle. Conformal mappings and Mobius transformations.

MAS 439

MAS 439 Special Topics in Geometry (7 ECTS) Depends on the special interests of the staff member teaching it.

MASTER COURSES OFFERED IN ENGLISH LANGUAGE

MAS 469

DSC 530

DSC 531

DSC 532

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