

The student can understand and use mathematical language and can analyse mathematical information using schemes and structures.

The student can use knowledge, understanding and skills acquired in mathematics for exploring, formulating and explaining problems and practical applications from reality.

The student has a basic knowledge of numbers, elementary algebra, real functions and geometry as listed in the final objectives of Secondary Education.

The student has a thorough theoretical and practical knowledge of real analysis, in particular of: elementary functions in mathematics and economics, limits, derivatives and elasticity.

Final competences

- 1 He/she can think methodically and logically, can analyse and synthesise problems.
- 2 The student has a thorough theoretical and practical knowledge of linear algebra and real analysis, in particular of: function analysis, optimisation problems, integrals, infinite series and their applications.
- 3 He/she can translate an economics problem into a mathematical problem, can approach this quantitatively and/or graphically and solve it.
- 4 The student can work with mathematical techniques, has understanding of mathematical concepts and proofs, can represent functional relations graphically, analyse and interpret them, and when appropriate use a calculator.
- 5 He/she can mathematically deduce properties of functions and linear models from economics.

Conditions for credit contract

Access to this course unit via a credit contract is unrestricted: the student takes into consideration the conditions mentioned in 'Starting Competences'

Conditions for exam contract

Access to this course unit via an exam contract is unrestricted

Teaching methods

Seminar, Lecture

Extra information on the teaching methods

Theory: lectures. Exercise classes: with individual coaching.

Use of Ufora for the distribution of study and documentation material.

Learning materials and price

Lecture notes and solved exercises are available (together for Mathematics I(A) and I(B): 12 euro). Cost: 12 EUR

References

- SIMON C.P. and BLUME L., Mathematics for economists, W.W. Norton, New York, 1994.
- HOY M. et al, Mathematics for Economics, Addison-Wesley, New York, 1996.
- HAEUSSLER E.F. and PAUL R.S., Introductory Mathematical Analysis, Prentice Hall, New Jersey, 1999.

Course content-related study coaching

During the lectures, the necessary coaching is given for the understanding of the material, and the lecturer is always available for additional explanations. In the lectures, questions testing insight in the theory are used, giving rise to discussion forums. During exercise classes specific training is given by an assistant in order to develop mathematical skills and techniques. Students can contact assistants and the monitor for additional training. The following documents are made available through Ufora: slides of the lectures, questions testing the understanding, preparatory and extra exercises (differentiated according to schooling) with solutions, examples of exam questions.

Assessment moments

end-of-term assessment

Examination methods in case of periodic assessment during the first examination period

Written assessment with open-ended questions

Examination methods in case of periodic assessment during the second examination period

Written assessment with open-ended questions

Examination methods in case of permanent assessment

Possibilities of retake in case of permanent assessment

not applicable

Extra information on the examination methods

Theory: written examination, during which the insight in mathematical concepts is assessed.

During the theory exam, the reproduction of lecture material is not requested, but the understanding of derivations, graphs and arguments is assessed. Also the vertical understanding (interconnections and relations between various methods) is being tested.

Exercises: written examination, during which the use of mathematical techniques and the application of the new material to economics problems is tested.

Calculation of the examination mark