

Programa Analysis 1 (MATE-2201)

The course covers the basics of the main concepts of analysis:

- Real Numbers
- Sequences and Series
- Continuous Functions
- Integration
- Differentiation
- Sequences and Series of Functions

The standard introductory books on a first course in analysis are *Principles of mathematical analysis* by W. Rudin and, a little more advanced, *Foundations of Analysis* by J. Dieudonné.

Evaluation

- 60% partial exams (three partial exams, each 20% of the final note)
- 20% final exam
- 20% homeworks, including presentation of problems on the blackboard

Literature

JEAN DIEUDONNÉ. *Foundations of modern analysis*. New York-London: Academic Press. XV, 387 p. , 1969.

EDMUND LANDAU. *Foundations of Analysis. The Arithmetic of Whole, Rational, Irrational and Complex Numbers*. Chelsea Publishing Company, New York, N.Y., 1951.

SERGE LANG. *Undergraduate analysis*. Undergraduate Texts in Mathematics. Springer-Verlag, New York, second edition, 1997.

WALTER RUDIN. *Principles of mathematical analysis*. McGraw-Hill Book Co., New York, third edition, 1976. International Series in Pure and Applied Mathematics.