

## Analiza matematica I

### Obiectiv principal

Introducerea, înțelegerea și aprofundarea noțiunilor fundamentale din analiza matematica cu aplicații în ingineria sistemelor.

### Course Objective

Introduction, understanding and deepening of the fundamental notions of mathematical analysis with applications in systems engineering.

### Curs

3 ore/săptămână, total 42 ore

- Elemente de teoria multimilor (multimi, functii). Spatiul  $R^n$ .
- Siruri si serii de vectori in  $R^n$ ;
- Functii continue de mai multe variabile reale
- Functii diferentiabile si aplicatii la extremele functiilor;
- Functii implicite si aplicatii
- Aplicatii la curbe si suprafete
- Serii de puteri
- Serii Fourier

### Course

3 hours weekly, 42 hours total

- Elements of multimillion theory (multitudes, functions). Space  $R^n$ .
- Strings and series of vectors in  $R^n$ ;
- Continuous functions of several real variables
- Different functions and applications at extremes of functions;
- Default functions and applications
- Applications on curves and surfaces
- Power series
- Fourier series

### Seminar

2 ore/săptămână, total 28 ore

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