

## Analiza Matematica II

## Mathematical Analysis II

### Obiectiv principal

Insusirea metodelor matematice care au aplicatii in inginerie, fizica, mecanica, organe de masini, rezistenta meterialelor, informatica, metode numerice, studiul si tehnologia materialelor

### Course Objective

Assimilation of mathematical methods with applications in engineering, physics, mechanics, machine organs, resistance of materials, informatics, numerical methods, study and technology of materials

### Curs

2 ore/săptămână, total 28 ore

- Spatiul  $n$  dimensional  $R^n$ . Vectori.
- Functii de mai multe variabile: limite si continuitate, derivate partiale, extreme libere si conditionate
- Integrale curbilinii. Aplicatii
- Integrale duble. Aplicatii
- Integrale triple. Aplicatii
- Integrale de suprafata. Aplicatii
- Campuri vectoriale, rotorul si divergenta unui camp vectorial, formulele lui Green, Stokes, Gauss- Ostrogradski

### Course

2 hours weekly, 28 hours total

- The  $n$  – Space  $R^n$ . Vectors.
- Fuctions of Several Variables: Limits and Continuity, Partial Derivatives, Extrema, Constrained Extrema
- Curve Integrals. Applications
- Double Integrals. Applications
- Triple Integrals. Applications
- Surface Integrals. Applications
- Vector Fields, Curl and Divergence of a Vector Field, Green's Theorem, Gauss – Ostrogradski's Theorem, Stokes' Theorem,

### Seminar

2 ore/săptămână, total 28 ore

- Spatiul  $n$  dimensional  $R^n$ . Vectori.
- Functii de mai multe variabile: limite si continuitate, derivate partiale, extreme libere si conditionate
- Integrale curbilinii. Aplicatii
- Integrale duble. Aplicatii
- Integrale triple. Aplicatii
- Integrale de suprafata. Aplicatii
- Campuri vectoriale, rotorul si divergenta unui camp vectorial, formulele lui Green, Stokes, Gauss- Ostrogradski

### Laboratory

2 hours weekly, 28 hours total

- The  $n$  – Space  $R^n$ . Vectors.
- Fuctions of Several Variables: Limits and Continuity, Partial Derivatives, Extrema, Constrained Extrema
- Curve Integrals. Applications
- Double Integrals. Applications
- Triple Integrals. Applications
- Surface Integrals. Applications
- Vector Fields, Curl and Divergence of a Vector Field, Green's Theorem, Gauss – Ostrogradski's Theorem, Stokes' Theorem

### Laborator

1 ora/săptămână, total 14 ore

### Laboratory

1 hour weekly, 14 hours total