

Analiza Matematica II

Mathematical Analysis II

Obiectiv principal

Introducerea, înțelegerea și aprofundarea noțiunilor fundamentale din analiza matematica cu aplicații în ingineria sistemelor. Totodata se urmareste dezvoltarea abilitatilor de logica si calcul matematic, necesare utilizarii metodelor matematice in celelalte discipline din ingineria sistemelor

Course Objective

Introduction, understanding and deepening of the fundamental notions of mathematical analysis with applications in systems engineering. At the same time, the development of mathematical logic and computational abilities is required, necessary for the use of mathematical methods in other disciplines in system engineering

Curs

2 ore/săptămână, total 28 ore

- Integrala Riemann si extinderi ale sale (integrale improprii, cu parametri) si aplicatii (functiile G si b)
- Integrala curbilinie de primul tip si aplicatii.
- Integrala dubla si aplicatii.
- Integrala tripla si aplicatii.
- Integrala de suprafata si aplicatii.
- Elemente de teoria campurilor; operatori ai teoriei campurilor; campuri particulare.
- Integrarea campurilor si formule integrale.
- Problema inversa a teoriei campurilor.

Course

2 hours weekly, 28 hours total

- Riemann Integrity and its Extensions (Incorrect Integral with Parameters) and Applications (Functions G and b)
- Integrated curvilinear of the first type and applications.
- Double Integral and Applications.
- Triple Integral and Applications.
- Surface integrity and applications.
- Field theory elements; operators of field theory; particular fields.
- Field integration and integral formulas.
- The reverse of field theory.

Seminar

1 ora/săptămână, total 14 ore

- Exercitii cu integrale Riemann si extinderi ale sale (integrale improprii, cu parametri) si aplicatii (functiile G si b)
- Exercitii cu integrale curbilinii de primul tip si aplicatii.
- Exercitii cu integrale duble si aplicatii.
- Exercitii cu integrale triple si aplicatii.
- Exercitii cu integrale de suprafata si aplicatii.
- Exercitii cu elemente de teoria campurilor, operatori ai teoriei campurilor si campuri particulare.
- Exercitii cu formule integrale.
- Problema inversa a teoriei campurilor.

Seminar

1 hour weekly, 14 hours total

- Exercises with integral Riemann and its extensions (incomplete integral with parameters) and applications (functions G and b)
- Exercises with integral curves of the first type and applications.
- Exercises with double integers and applications.
- Exercises with triple integers and applications.
- Exercises with surface integrals and applications.
- Exercises with field theory elements, field theory operators and particular fields.
- Exercises with integral formulas.
- The reverse of field theory.