V.M.Tortorelli

Università di Pisa, Dipartimento di Matematica: AA 2016-2017

Analisi Matematica 2 - 432AA

Scuola di Ingegneria corso di laurea in Ingegneria Edile ed Architettura

English summary of "Scheda dell'insegnamento"

Academic year: 2017-2018, II year course, I semester.
Credits: 6 for curriculum in Ingegneria Edile ed Architettura (LM5,432AA).

Titolare: Vincenzo M. Tortorelli
(*tortorel@dm.unipi.it*, Dip.Mat. L.go B.Pontecorvo 5, room 404, 0502213288).
Collaboratori: dott. Jacopo D'Aurizio, *jacopo.daurizio@gmail.com*.

Official web-page: *http* : *//elearn.ing.unipi.it/course/*
Nota: enrolling is needed *http* : *//elearn.ing.unipi.it/enrol/*
Mailing list: 'forum news' of the e-lerning page.

Pre-requisiti: all the arguments exposed in Analisi Matematica 1 and Geometria.
Aims of the course: to give statements and definitions of differential and integral calculus for functions of several real variables, to study the basic notions concerning surfaces in the tridimensional euclidean space, and the basic spaces of funcitons. To present the abstract languages useful to an unitary knowledge of these tools.
Knowledge. Give statements and definitions of differential and integral calculus for functions of several real variables, to study the basic notions concerning surfaces in the tridimensional euclidean space, and the spaces of funcitons. To present the abstract languages useful to an unitary knowledge of these tools.
Assessment criteria of knowledge
Student action: study and compare lessons with text-books, link with arguments of previous teaching, distinguish between notations difficulties and conceptual ones. Ask to the teacher.
Standard: know basic examples and counterexamples to statements, know the conceptual content of formal definitions, recognize abstract statements in simple concrete cases.
Skills
Use of the languages and of the calculus formalisms proposed in the course
Assessment criteria of skills
Student action: training in calculus using not only formulas but also the theory exposed to get the right automatism. Ask to the teacher.
Standard: apply calculus rules, formulas and definitions in concrete cases.
Activities: classroom lessons, guided exercises, private repetitorium.
Note: in our opinion it is necessary the active partecipation to the whole of the activities. Ask suddenly to the teacher for emerging difficulties.
Examination mode: a) midterm exams, on demand;
b)final written exams;
c) oral interrogation.
Program: see italian version.

Bibliography:

- Notes of the course: for some topics there is a certain difference with the usual tex books.

Basics:

- M.Gobbino, lezioni di analisi matematica 2,

  `http://users.dma.unipi.it/gobbino/Home_Page/ArchivioDidattico.html`

- N.Fusco, P.Marcellini, C. Sbordone, Elementi di analisi matematica 2. Versione semplificata per i nuovi corsi di laurea, Liguori Editore, 2001.

More complete books:

- V. Barutello, M. Conti, D. L. Ferrario, S. Terracini, G. Verzini, Analisi matematica vol. 2 - con elementi di geometria e calcolo vettoriale, Apogeo, Milano 2008.
- N.Fusco, P.Marcellini, C. Sbordone, Analisi Matematica 2, Liguori Editore, 1996.

Others interesting books:

- P. Acquistapace, Appunti di Analisi matematica 1,

  `http://www.dm.unipi.it/~acquistp/analisi1.pdf`

- P. Acquistapace, Appunti di Analisi matematica 2,

  `http://www.dm.unipi.it/~acquistp/analisi2.pdf`

- R. Courant, F. John, Introduction to Calculus and Analysis, vol.I, vol. II, Springer, Berlin 1999.