



UNIVERSITÀ
degli STUDI
di CATANIA

DEPARTMENT OF ELECTRICAL, ELECTRONIC AND
COMPUTER ENGINEERING
Bachelor's Degree in Industrial Engineering
Academic Year 2016/2017 - 2° Year

MATHEMATICAL ANALYSIS II A - L

MAT/05 - 9 CFU - 1° Semester

Teaching Staff

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Office Hours: Definito in base al Calendario delle Lezioni o delle pause didattiche e/o concordato personalmente o in gruppo, e comunicato, insieme alle altre informazioni ed al materiale didattico, su Studium e nel Canale Telegram "aocarusedidattica".

LEARNING OBJECTIVES

At the end of the course, students will be able to apply the main ideas and topics of the differential and integral calculus of several variables to chemistry, physics, mechanics, materials science, and, moreover, to computer science, electronics circuits and energetic processes.

DETAILED COURSE CONTENT

The purpose of the course is to give a first development of the elementary notions of calculus of one variable, in the setting of the n -dimensional Euclidean spaces. More precisely, the course will cover the following main topics: limits and continuity of functions between n -dimensional Euclidean spaces, differential calculus and applications, approximation of functions by Taylor series and applications, Lebesgue measure and integral and, finally, basic notions on Ordinary Differential Equations and solution techniques for some kind of first and second order ODE.

TEXTBOOK INFORMATION

REFERENCES

THEORY:

- G.Anichini - G.Conti, "Analisi Matematica 2", Pearson Italia, ultima edizione
- A.Bacciotti - F.Ricci, "Lezioni di Analisi Matematica 2", Editrice Levrotto e Bella, ultima edizione
- M.Bertsch, R.Dal Passo, L.Giacomelli, "Analisi Matematica, McGraw-Hill, ultima edizione
- W.Fleming, "Functions of Several Variables", Springer-Verlag, Corrected third printing, 1987
- C.Goffman, "Calculus of Several Variables", Harper & Row and John Weatherhill, Inc., first reprint, 1965
- C.D.Pagani - S.Salsa, "Analisi Matematica 2", Zanichelli, seconda edizione
- Teacher's lecture notes

EXERCISE BOOK:

- M.Bramanti, "[Esercitazioni Analisi Matematica 2](#)", Progetto Leonardo - Edizioni Esculapio, Bologna, 2012
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