



Higher Analysis

MAT/05 - 6 CFU - 2° Semester

Teaching Staff

ALFONSO VILLANI

Email: villani@dmi.unict.it

Office: Ufficio 345, Dipartimento di Matematica e Informatica, viale A. Doria 6, 95125 Catania

Phone: 095 7383061

Office Hours: lunedì 11-13, giovedì 12-13

DANIELE PUGLISI

Email: dpuglisi@dmi.unict.it

Office: Dipartimento di Matematica e Informatica, viale A. Doria 6, 95125, Catania

Phone: 095-7383055

Office Hours: Martedì 9.00 - 12.00

LEARNING OBJECTIVES

The aim of the course is to make the students familiar with basic concepts, main theorems and most used techniques in Control theory for linear ordinary differential systems.

COURSE STRUCTURE

The course main topics will be explained by the teacher during formal lectures. These will be focusing on each topic's general principles and new concepts that have not been studied before. Each's topic's additional resources and subchapters will be presented by turning over groups of students. The goal is to have students develop study autonomy and teaching abilities, skills that are essential for students who want to pursue a career in research or teaching.

DETAILED COURSE CONTENT

Bounded variation and absolutely continuous functions. Linear differential systems of the first order with coefficients in L^1_{loc} . Related control processes. Evolution matrix. Accessible set. Complete controllability. Controllability variable in time.

TEXTBOOK INFORMATION

1. . H. Royden, Real Analysis, 2nd ed., Macmillan

