UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

COMPLEMENTS OF MATHEMATICAL ANALYSIS II

Enrollment year	2020/2021
Academic year	2021/2022
Regulations	DM270
Academic discipline	MAT/05 (MATHEMATICAL ANALYSIS)
Department	DEPARTMENT OF PHYSICS
Course	PHYSICS
Curriculum	PERCORSO COMUNE
Year of study	2°
Period	1st semester (29/09/2021 - 19/01/2022)
ECTS	6
Lesson hours	60 lesson hours
Language	Italian
Activity type	WRITTEN AND ORAL TEST
Teacher	SEGATTI ANTONIO GIOVANNI (titolare) - 6 ECTS
Prerequisites	The basics of the courses Analisi Mstematica 1, Complementi di Analisi Matematica 1 and Algebra Lineare of the first year.
Learning outcomes	The aim of the course is to integrate the program of Mathematical Analysis of the first year and complete the basic knowledges of mathematical analysis for students of a bachelor degree in Physics.
Course contents	-Sequences and series of functions: power series, Fourier series. -Differential Equations: results on existence, uniqueness, extension and comparison. Linear differential systems and equations. -Lebesgue Theory. Measure Theory, Lebesgue Integral. Limit Theorems (Monotone

	Convergenge, Dominated Convergence and Fatou's Lemma) For each topic, the theory will be complemented with a number of examples and exercises.
Teaching methods	Lectures.
Reccomended or required readings	N. Fusco, P. Marcellini and C. Sbordone, Elements of Mathematics two - Liguori, 2001 Alternatively Lezioni di analisi matematica vol.2 di Giovanni Prodi (Boringhieri) Analisi matematica 2 di Carlo D. Pagani e Sandro Salsa (Zanichelli) Sandro Salsa, Annamaria Squellati Esercizi di Analisi Matematica 2 G. Gilardi, Analisi matematica di base - McGraw Hill, 2011; in addition to the educational resources available on kiro.
Assessment methods	The exam consists of a written test and of an oral examination on the arguments specified in the program.
Further information	
Sustainable development goals - Agenda 2030	$lbl_legenda_sviluppo_sostenibile