



Dipartimento di Matematica, Informatica ed Economia

ACADEMIC YEAR: 2018/19

COURSE: Elements of Higher Analysis, Mod. B

TYPE OF EDUCATIONAL ACTIVITY: Characterizing

TEACHER: Alberto Cialdea

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Language: Italian

ECTS: 6

n. of hours: 48

Campus: Potenza

Semester: Second

Dept.: DIMIE

Program: Mathematics

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The student will know the fundamentals of complex function theory. By studying it the students will refine their critical thinking skills. In particular they will have to compare continuously the theory of functions of real variables with the theory of one complex variable, where deep differences emerge.

The final part of the course is dedicated to an introduction to the theory of Sobolev spaces.

PRE-REQUIREMENTS

The Course is the second part of a two-semester sequence beginning with Elements of Higher Analysis, Mod.A.

Syllabus

Theory of holomorphic functions of one complex variable (38 hours).

Sobolev Spaces (10 hours).

TEACHING METHODS

Traditional theoretical lectures.

EVALUATION METHODS

Final oral examination after the end of modulus B. Alternatively the student can take three partial examinations.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

G. Fichera, L. De Vito, Funzioni analitiche di una variabile complessa, Ed. Veschi.

A. Cialdea, Appunti sugli spazi di Sobolev, UNIBAS.

Additional notes are available at <http://cialdea.altervista.org/disp.html>.

INTERACTION WITH STUDENTS

Educational goals, syllabus and evaluation methods are described at the beginning of the course.

Office hours:

Wednesday 15:00-17:00, Thursday 12:30-13:30

In addition students can contact the teacher by email.

EXAMINATION SESSIONS (FORECAST)¹

13/02/2019, 06/05/2019, 03/07/2019, 17/07/2019, 18/09/2019, 11/12/2019.

SEMINARS BY EXTERNAL EXPERTS SI NO

FURTHER INFORMATION

¹ Subject to possible changes: check the web site of the Teacher or the Department for updates