

PH.D. IN MATHEMATICS AND COMPUTER SCIENCE

COURSE SCHEDULE

ACADEMIC YEAR 2022/2023

AN INTRODUCTION TO DIFFERENTIAL TOPOLOGY

LECTURER: FRANCESCO POLIZZI
UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II

23 - 26 OCTOBER

THE COURSE WILL BE A GENTLE INTRODUCTION TO DIFFERENTIAL FORM IN ALGEBRAIC TOPOLOGY.
WE INTEND TO DISCUSS:

- THE DE RHAM COMPLEX AND THE DE RHAM COHOMOLOGY
- THE MAYER-VIETORIS EXACT SEQUENCE
- ORIENTATION AND INTEGRATION
- STOKES' THEOREM
- POINCARÉ LEMMAS
- THE DE RHAM-CECH COMPLEX AND THE DE RHAM-CECH ISOMORPHISM
- THE THEOREM OF SARD
- THE DEGREE OF A SMOOTH MAP
- VECTOR FIELDS AND THE EULER NUMBER

CLASS SCHEDULE:

MON 23/10 10:00 - 13:00

TUE 24/10 10:00 - 13:00

WED 25/10 10:00 - 13:00

THU 26/10 10:00 - 13:00

CLASSROOM MT 14