



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Accretion Discs Astrophysics

2223-113R-11

Title

Accretion Discs Astrophysics

Teacher(s)

Dott.ssa Alessia Franchini

Language

English

Short description

Fluid dynamics theory (2 hrs)

- fluid equations: conservation of mass, angular momentum and energy
- shocks and fluid instabilities (thermal, Rayleigh-Taylor and Kelvin-Helmholtz)
- viscosity: Navier-Stokes equation

Accretion discs dynamics (3 hrs)

- fundamental equations, steady-state solutions
- viscosity in accretion discs

- gravitational instabilities
- warped discs

AGN discs phenomenology (1 hr)

- scaling relations
- disc related features in AGN spectra (big blue bump and corona)

Protostellar and protoplanetary discs (2 hrs)

- discs around young stars
- planet formation theory
- planet migration theory

CFU / Hours

1 CFU / 8 hours

Teaching period

Tuesday, 9th May
Tuesday, 16th May
Tuesday, 23rd May
Tuesday, 30th May

Sustainable Development Goals
