

COURSE DETAIL

FUNDAMENTALS OF ASTROPHYSICS

Country

Italy

Host Institution

University of Bologna

Program(s)

University of Bologna

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Physics

UCEAP Course Number

168

UCEAP Course Suffix**UCEAP Official Title**

FUNDAMENTALS OF ASTROPHYSICS

UCEAP Transcript Title

FNDMNTLS ASTRPHYSICS

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course is part of the Laurea Magistrale program. The course is intended for advanced level students only. Enrollment is by consent of the instructor. The aim of this course is to obtain a general understanding of physical properties of stars and galaxies. At the end of the lectures the student is familiar with the equations that regulate the internal structure of the stars, the sources of energy production, the structure of stellar atmosphere, and the formation theory of the spectral lines. Students acquire a general knowledge of morphological, structural, and dynamical properties of stellar systems (stellar clusters, galaxies). Hence, students acquire the necessary bases to understand the structural and evolutionary properties of stars and galaxies. The course discusses topics including :astronomical data and tools; celestial mechanics and the solar system; radiative processes; classification of stars and stellar atmospheres; stellar interiors; stellar evolution; fate of massive stars and stellar remnants; the interstellar medium; star formation; origin of the solar system and extra-solar planets; galaxies and galaxy clusters; and cosmology and large scale structure.

Language(s) of Instruction

English

Host Institution Course Number

91187

Host Institution Course Title

FUNDAMENTALS OF ASTROPHYSICS

Host Institution Campus

BOLOGNA

Host Institution Faculty

Host Institution Degree

LM in PHYSICS

Host Institution Department

