COURSE DETAIL

HIGH ENERGY ASTROPHYSICS
Country United Kingdom - Scotland
Host Institution University of Edinburgh
Program(s) University of Edinburgh
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Physics
UCEAP Course Number 109
UCEAP Course Suffix
UCEAP Official Title HIGH ENERGY ASTROPHYSICS
UCEAP Transcript Title ENERGY ASTROPHYSICS
UCEAP Quarter Units 4.00
UCEAP Semester Units 2.70

Course Description
This course examines the many physical processes which are important in the structure and emission of light from extreme astrophysical sources. Starting from Maxwell's equations, the classical theory of radiation from an accelerated charge is developed, and generalized to the relativistic case. Topic include synchrotron radiation from relativistic electrons gyrating in a magnetic field; the acceleration of particles to relativistic energies; Compton and inverse Compton scattering; accretion of material onto compact objects; radio galaxies and quasars, and their jets; bremsstrahlung emission from hot gas; and cooling flows and the role of black holes in galaxy formation.

Language(s) of Instruction
English

Host Institution Course Number
PHYS11013

Host Institution Course Title
HIGH ENERGY ASTROPHYSICS

Host Institution Course Details

Host Institution Campus
Edinburgh

Host Institution Faculty

Host Institution Degree

Host Institution Department
Physics and Astronomy

Course Last Reviewed

Print