

COURSE DETAIL

INTRODUCTION TO NUCLEAR AND PARTICLE PHYSICS

Country

Norway

Host Institution

University of Oslo

Program(s)

University of Oslo

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Physics

UCEAP Course Number

119

UCEAP Course Suffix**UCEAP Official Title**

INTRODUCTION TO NUCLEAR AND PARTICLE PHYSICS

UCEAP Transcript Title

NUCLEAR&PARTICL PHY

UCEAP Quarter Units

8.00

UCEAP Semester Units

5.30

Course Description

This course is an introduction to nuclear and particle physics, from the universe's elementary particles and the forces that act between them, to the quantum structure of systems composed of elementary particles. Weight is given to current challenges and new results from cutting-edge research. The course discusses topics including fundamental conservation laws and symmetries; production and decay processes for nuclei and elementary particles; interplay between theory, models, and data from modern experiments; nuclear properties and models that describe the quantum structure, decay, and reactions of nuclei; the Standard Model of elementary particles and interactions including the role of the Higgs boson; the quark-gluon plasma; and the roles of nuclear and particle physics in energy production, medicine, and astrophysics. The course requires students to have met specific prerequisites in order to enroll in the course.

Language(s) of Instruction

English

Host Institution Course Number

FYS3500

Host Institution Course Title

INTRODUCTION TO NUCLEAR AND PARTICLE PHYSICS

Host Institution Course Details

Host Institution Campus

Mathematics and Natural Sciences

Host Institution Faculty

Host Institution Degree

Host Institution Department

Physics

Course Last Reviewed

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