COURSE DETAIL

CLASSICAL MECHANICS AND SPECIAL RELATIVITY
Country Sweden
Host Institution Lund University
Program(s) Lund University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Physics
UCEAP Course Number 145
UCEAP Course Suffix
UCEAP Official Title CLASSICAL MECHANICS AND SPECIAL RELATIVITY
UCEAP Transcript Title MECHNCS&RELATIVITY
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

This course introduces the foundations of classical mechanics based on the principle of least action with emphasis on symmetries and conservation laws as well as special relativity with emphasis on relativistic kinematics. In particular the following is included: the Lagrange formalism, the principle of least action, Euler Lagrange's equations; conservation laws and generalized coordinates; introduction to the Hamilton formalism; constraints and Lagrange multipliers; general treatment of the two-body problem and Kepler's laws; Lorentz transformations; and four-vectors and relativistic kinematics.

Language(s) of Instruction
English

Host Institution Course Number
FYTB14

Host Institution Course Title
CLASSICAL MECHANICS AND SPECIAL RELATIVITY

Host Institution Course Details
https://kursplaner.lu.se/pdf/kurs/en/FYTB14

Host Institution Campus
Lund University

Host Institution Faculty
Science

Host Institution Degree

Host Institution Department
Theoretical Physics

Course Last Reviewed
2024-2025

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