COURSE DETAIL

ELEMENTARY PARTICLE PHYSICS
Country Japan
Host Institution Tohoku University
Program(s) Engineering and Science
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Physics
UCEAP Course Number 105
UCEAP Course Suffix
UCEAP Official Title ELEMENTARY PARTICLE PHYSICS
UCEAP Transcript Title PARTICLE PHYSICS
UCEAP Quarter Units 3.00
UCEAP Semester Units 2.00

Course Description

The science of particle physics is to understand our world by studying particles that constitute the universe and their interactions. This course explains the basic concept of the particle physics as well as the Standard model and its related important experiments and results.

The course covers the following topics:

- Elementary particles and their types and characteristics of interactions
- Properties of nuclei
- Elementary particle detectors and accelerators
- Collider experiments and nuclear structure
- Quark and strong interaction
- Weak interaction and symmetry breaking
- Standard model and verifications
- Neutrino oscillations

Language(s) of Instruction
English

Host Institution Course Number
N/A

Host Institution Course Title
ELEMENTARY PARTICLE PHYSICS

Host Institution Course Details
https://www.insc.tohoku.ac.jp/english/wp-content/uploads/2024/09/SM22007_Elemen...

Host Institution Campus
Tohoku University

Host Institution Faculty

Host Institution Degree

Host Institution Department
JYPE

Course Last Reviewed
2024-2025

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