

COURSE DETAIL

STATISTICAL MECHANICS I

Country

Singapore

Host Institution

Nanyang Technological University

Program(s)

Nanyang Technological University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Physics

UCEAP Course Number

115

UCEAP Course Suffix**UCEAP Official Title**

STATISTICAL MECHANICS I

UCEAP Transcript Title

STATSTICL MCHANIC I

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course examines the fundamental concepts and problem-solving skills in statistical mechanics, including topics such as definition of temperature, microcanonical ensemble, canonical ensemble, grand canonical ensemble, Boltzmann, Bose, and Fermi distributions, paramagnets, harmonic oscillators and Debye solids, blackbody radiation, chemical potential, Gibbs free energy, and phase transitions. The course requires students to take prerequisites.

Language(s) of Instruction

English

Host Institution Course Number

PH3201

Host Institution Course Title

STATISTICAL MECHANICS I

Host Institution Course Details

https://wis.ntu.edu.sg/webexe/owa/aus_subj_cont.main

Host Institution Campus

Host Institution Faculty

School of Physics and Mathematical Sciences

Host Institution Degree

Host Institution Department

Physics

Course Last Reviewed

2025-2026

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