COURSE DETAIL

QUANTUM MECHANICS 1

Country
Singapore

Host Institution
National University of Singapore

Program(s)
National University of Singapore

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Physics

UCEAP Course Number
107

UCEAP Course Suffix
A

UCEAP Official Title
QUANTUM MECHANICS 1

UCEAP Transcript Title
QUANTUM MECHANICS

UCEAP Quarter Units
6.00

UCEAP Semester Units

4.00

Course Description
One dimensional continuous systems: Schrödinger equation. Probabilistic interpretation. Solution for the infinite and finite square well potentials; scattering from barrier and step potentials. Solution for 1D harmonic oscillator. Applications such as quantum dots, quantum wires, quantum tunneling. Two-State Quantum Systems: Schrödinger equation for a two-state system. Examples of two-state systems such as quantum interferometer (explanation of wave-particle duality), quantum beats (elementary spectroscopy) are studied. Two-level systems are extended to N-level systems.

Language(s) of Instruction
English

Host Institution Course Number
PC2130

Host Institution Course Title
QUANTUM MECHANICS 1

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Physics

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