

# 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 Course Details**

### **Host Institution Campus**

### **Host Institution Faculty**

### **Host Institution Degree**

### **Host Institution Department**

Physics

### **Course Last Reviewed**

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