



DIPARTIMENTO DI FISICA “GIUSEPPE OCCHIALINI”

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For candidates without a (basic) knowledge of Quantum Mechanics as evidenced by their Curriculum, the Admission Committee will verify through oral assessment the knowledge of the topics reported below.

Suggested Book:

Introduction to quantum mechanics, David J. Griffiths, Chapters 1, 2, and 4.

CHAPTER 1

THE WAVE FUNCTION

1.1 The Schrodinger Equation	1
1.2 The Statistical interpretation	2
1.3 Probability	5
1.4 Normalization	11
1.5 Momentum,	14
1.6 The Uncertainty Principle	17

CHAPTER2

THE TIME-INDEPENDENT SCHRODINGER EQUATION

2.1 Stationary States	20
2.2 The Infinite Square Well	24
2.3 The Harmonic Oscillator	31
2.4 The Free Particle	44
2.5 The Delta-Function Potential	50
2.6 The Finite Square Well	60
2.7 The Scattering Matrix	66

CHAPTER4

QUANTUM MECHANICS IN THREE DIMENSIONS

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