

COURSE SPECIFICATION FORM

DEPARTMENT OF: Mathematics				Academic Session: 2020-21	
Course Code:	MT3260	Course Value:	15 credits	Status: <i>(ie: Core, or Optional)</i>	Optional
Course Title:	Quantum Theory I			Availability: <i>(state which teaching terms)</i>	Term 1
Prerequisites:				Recommended:	
Co-ordinator:					
Course Staff					
Learning Objectives:	This module introduces the major methods and concepts of quantum theory. It stresses applications and covers many of the classic problems of quantum theory.				
Learning Outcomes:	On completion of the module, students should understand the probabilistic interpretation of quantum theory; be able to write down the Schrödinger equation for an arbitrary dynamical system; be able to solve the Schrödinger equation and obtain the eigen-energies and energy eigenfunctions for a constant potential, the harmonic oscillator and the hydrogen atom.				
Teaching & Learning Methods:	30 hours of lectures. 120 hours of private study, including work on problem sheets and examination preparation. This may include discussions with the course leader if the student wishes.				
Key Bibliography:	Quantum Physics – S Gasiorowicz (John Wiley). <i>Library Ref. 530.12 GAS</i> An Introduction to Quantum Mechanics – B H Bransden and C J Joachain (Longmans). <i>Library Ref. 530.12 BRA</i>				
Formative Assessment & Feedback:	Formative assignments in the form of 8 problem sheets. The students will receive feedback as written comments on their attempts.				
Summative Assessment:	Exam (%) A two-hour written exam: 85% Coursework (%) Set exercises: 15%				

Updated December 2019