Course Outline Phys 712

Course: Phys 712 Quantum Mechanics II Instructor: Dr Alakabha Datta Office: Lewis 209 Meeting: M-W-F 10-10.50 am at Lewis 104(Tutoring Room) Office Hours: By Appointment Email:datta@olemiss.edu, datta@phy.olemiss.edu Phone: (662) 915-5611 Course homepage: Check Blackboard.

Book : Modern Quantum Mechanics Second Edition J.J. Sakurai and Jim Napolitano

Many other books can be used as references:

Quantum Mechanics by E. Merzbacher.

Principles of Quantum Mechanics by R. Shankar.

Introduction to Quantum Mechanics by David J Griffiths. Quantum Mechanics by L. Schiff.

Quantum Mechanics by Claude Cohen Tannoudji

Quantum Mechanics by David H. McIntyre.

Quantum Mechanics with Basic Field Theory by Bipin R. Desai.

Course Requirement: You must have taken Phys 711.

Course Goals and learning Outcome: After completing the course you will know how to apply the basic postulates and rules of Quantum Mechanics learnt in QM 711 to solve problems in various areas of research.

Independent study: The course will also involve solving problems that will require students to research material on published journals to complete the project. The purpose of this is to help the student acquire skills to pursue independent research.

Marking:

Homework: 55 % (30% book homework, 25% short homework)

Mid Exam: 20%

Final Exam: 25%

An overall course average of the following percentages will guarantee the corresponding letter grade:

90%	А
80%	В
70%	С
60%	D

Topics Covered in course: Topics will be taken from chapters 3-7 in the book. Topics include, density matrix, tensor operators, symmetry in Quantum Mechanics, identical particles, perturbation theory and scattering theory.

Attendance: There is no attendance requirement. However if you miss an exam or cannot turn in HW on time because of illness I will require a doctor' note. If you will away on other reasons inform me prior to your absence and get a note if applicable.

Academic Integrity: We will follow the University's policy of academic integrity (M-book). Violations of these policies will result in a failing grade and other disciplinary actions.