**PHYS 503, Fall 2011**

**Syllabus**

**Title of the Course:** Advanced Quantum Mechanics I

**Instructor:** Ali Mostafazadeh (Office: Sci.154; Office Hours: Mon. & Wed. 10:00-11:00**)**

**Main Textbook:** “Quantum Mechanics,” G. Auletta, M. Fortunato, and G. Parisi (Cambridge University Press, 2009)

**Website:** Visit[**http://home.ku.edu.tr/~amostafazadeh/**](http://home.ku.edu.tr/~amostafazadeh/) and follow the link [**Teaching**](http://home.ku.edu.tr/~amostafazadeh/teaching.htm) and then[**Phys 503**](http://home.ku.edu.tr/~amostafazadeh/phys503/phys503_f2011/phys503.htm)**.**

**Topics to be covered**: Review of Classical Mechanics and Linear Algebra, Kinematical and dynamical structure of Quantum Mechanics, Perturbation theory and approximation schemes, Angular Momentum and Spin, Applications

**Attendance:** Students are strongly advised to attend all the lectures and PSs. **5 bonus points** will be added to the total numerical grade (G) of those students who will miss at most 4 lectures.

**Evaluation method:** Students’ progress will be evaluated according to their performance in homework assignments 15%) three midterm exams (15% each), and a final exam (40%). The schedule for the exams is posted in the website of Phys 503.

**Make-ups:** If a student misses a midterm exam and has a valid excuse, his (her) grade in the final exam will be substituted for the grade in the missed exam. If (s)he also misses the final exam, (s)he will be given zero in the exam(s) that (s)he has missed regardless of whether (s)he has a valid excuse or not. If a student misses the final exam and has a valid excuse, (s)he will be given a make-up exam.

**Auditing Students:** In order to get an AU, a student must not miss more than four lectures.

**Suggested Method of Study:** Students are advised to study the subjects covered in class immediately after the lectures. Reading the lecture notes and the book is necessary for grasping the subject, but it is by no means sufficient. Students must try to reproduce the definitions and derive the results obtain in class on their own. They are expected to spend an average of six hours per week on studying the material covered in class in addition to the time devoted to working out the homework problems.